

TRANSPORTATION

FINAL DESIGN REPORT

PIN 8026.08.121

SH 1015

RECONSTRUCTION OF NY ROUTE 120 (QUAKER STREET)
FROM HUNTS PLACE/DOUGLAS ROAD TO BIN 1037350

BIN 1037360 OVER SAW MILL RIVER PARKWAY

BIN 1037350 OVER METRO-NORTH RAILROAD AND RAILROAD STREET

HAMLET OF CHAPPAQUA

TOWN OF NEW CASTLE

WESTCHESTER COUNTY

OCTOBER 2006

U.S. Department of Transportation
Federal Highway Administration

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
GEORGE E. PATAKI, Governor JOSEPH H. BOARDMAN, Commissioner

PROJECT REPORT



It is the policy of the NYSDOT to use metric units for all projects to be let for construction after September 30, 1996. This project is being designed using metric units and the text of this report uses metric units.

The following table of approximate conversion factors provides the relationship between metric and inch-pound units for some of the more frequently used units in highway design. The table allows one to calculate the Inch-Pound Unit by multiplying the corresponding Metric Unit by the given factor.

	<u>Metric Unit</u>	x	<u>Factor</u>	=	<u>Inch-Pound Unit</u>
<u>Length</u>	kilometer (km)	x	0.621	=	miles (mi)
	meter (m)	x	3.281	=	feet (ft.)
<u>Area</u>	hectare (ha)	x	2.471	=	acres (a)
	square meter (m ²)	x	1.196	=	square yards (sy)
	square meter (m ²)	x	10.764	=	square feet (sf)
<u>Volume</u>	cubic meter (m ³)	x	1.308	=	cubic yards (cy)
	cubic meter (m ³)	x	35.315	=	cubic feet (cf)
<u>Speed</u>	kilometer per hour (km/h)	x	0.621	=	miles per hour (mph)
	meter per second (m/s)	x	3.281	=	feet per second (ft/s)

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ABBREVIATIONS

AADT	-	Average Annual Daily Traffic
AASHTO	-	American Assoc. of State Highway Transportation Officials
ACC/MVKM	-	Accidents per Million Vehicle Kilometers
ADAAG	-	Americans with Disabilities Act Accessibility Guideline for Buildings & Facilities
BIN	-	Bridge Identification Number
BM	-	NYSDOT Bridge Manual
COE	-	Corps of Engineers
DHV	-	Design Hourly Volume (Two-Way)
DDHV	-	Directional Design Hourly Volume (One-Way)
DR	-	Design Report
EAP	-	Environmental Action Plan
EPA	-	Environmental Protection Agency
ETC	-	Estimated Time of Completion
FEMA	-	Federal Emergency Management Administration (U.S.)
FHWA	-	Federal Highway Administration
FIPS	-	Federal Information Processing Standard
HDM	-	New York State Department of Transportation Highway Design Manual
HSD	-	Headlight Sight Distance
LOS	-	Level of Service
NEPA	-	National Environmental Policy Act
NHS	-	National Highway System
NWI	-	National Wetlands Inventory
NYSDEC	-	New York State Department of Environmental Conservation
NYSDOT	-	New York State Department of Transportation
PE	-	Permanent Easement
PIN	-	Project Identification Number
PS&E	-	Plans, Specifications and Estimate
RMM	-	Reference Mile Marker
ROW	-	Right-of-Way
SEQR	-	State Environmental Quality Review
SH	-	State Highway
SPDES	-	Stormwater Pollutant Discharge Elimination System
SR	-	State Route
SSD	-	Stopping Sight Distance
USCG	-	United States Coast Guard

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I. Introduction

Purpose:

This report has been prepared in accordance with the New York State Department of Transportation (NYSDOT) Design Procedure Manual (DPM) to allow all interested parties the opportunity to review the proposed improvements to NY Route 120 in the Hamlet of Chappaqua in the Town of New Castle including improvements to the bridge over Metro-North Railroad, and roadway improvements to NY Route 120 (Quaker Street) and adjacent local roads.

This Design Report presents the project's evolution, objectives and alternatives, as well as the social, economic and environmental effects on the area. This report has been prepared to ensure that the project is progressed in conformance with Federal Laws, policies and procedures, and to assist Federal, State, and Local officials and agencies as well as concerned citizens in their review and assessment of the project.

Location:

The project involves the reconstruction of NY Route 120 (Quaker Street) in the Town of New Castle, Westchester County. The project begins west of the Hunts Place/Douglas Road intersection (RM 120-8701-2140) and ends just east of the Metro-North Railroad Bridge (RM 120-8701-2138). The project includes the replacement of BIN 1037350 over Metro-North Railroad and Railroad Street (Allen Place) and the resurfacing of Quaker Street to the west of the Saw Mill River Parkway Bridge.

See locations maps in **Appendix A**.

Conditions & Needs:

BIN 1037350 over Metro-North Railroad and Railroad Street (Allen Place) was built in 1930 and the need for bridge repairs was identified in 1994 when five "Safety Flags" were issued for cracked, loose and delaminated concrete cover on the underside of the deck in both spans. In 1996, the continuing NYSDOT Bridge Inspection Program reported deficiencies in the deck, curbs, wearing surface, primary members (Span 1), and pedestals. An in-depth inspection performed in 1999 confirmed these reports and noted that rehabilitation was a possible alternative at the time. Although the rehabilitation is possible, it is not feasible since two-way traffic cannot be maintained on the bridge during construction. Subsequent biennial and interim inspections have been completed since 1999. These inspections have documented continued deterioration of the bridge.

There are no environmental needs associated with this project and it is anticipated that a Storm-water Pollution Discharge Elimination System (SPDES) Phase II permit will not be required.

Objectives:

The primary objectives of this project are to:

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Provide a safe, non-deficient structural condition at NY Route 120 (Quaker Street) over the Metro-North Railroad and Railroad Street (BIN 1037350) for at least 30 years using cost-effective techniques to ensure adequate vehicular and structural capacity, and minimize maintenance and repair, and environmental impacts.

Develop a Maintenance and Protection of Traffic Plan to safely accommodate two-way vehicular traffic, pedestrians and bicyclists, maintain adequate access to local business, and adequately accommodate the Metro-North Railroad operations.

Alternatives:

Three (3) design alternatives and four (4) M&PT sub-alternatives have been considered for this project. The following is a list of the reviewed alternatives:

Alternative No. 1 – No Action/Maintenance
Alternative No. 2 – Bridge Rehabilitation
Alternative No. 3 – Bridge Replacement

Sub-Alternative No. 3A – (M&PT Option A)
Sub-Alternative No. 3B – (M&PT Option B)
Sub-Alternative No. 3C – (M&PT Option C)
Sub-Alternative No. 3D – (M&PT Option D)

Alternative No. 3, including Sub-Alternative 3B (M&PT stage construction option with a temporary pedestrian structure), is considered feasible and is the selected alternative.

Cost & Schedule:

Preliminary estimates indicate that the project will cost approximately \$6.85 million for the feasible alternative. The project is slated for a July 2007 Letting.

Environmental Classification:

The project is classified as a National Environmental Policy Act (NEPA) Class II in accordance with 23 CFR 771.117(a) and (d), and a State Environmental Quality Review Act (SEQR) Type II in accordance with 17NYCRR 15.14(d) and 17NYCRR 15.14(e) (37).

The NYSDOT is the lead agency for SEQR and the Federal Highway Administration (FHWA) is the lead agency for NEPA. It is anticipated that a Categorical Exclusion with documentation will be granted under NEPA.

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Contact:

Further information regarding this project or the contents of this report may be obtained by contacting:

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Attn: David Bennett, P.E.
New York State Department of Transportation
Region 8 Design Group
4 Burnett Boulevard
Poughkeepsie, New York 12603
(914) 431-7924

Correspondence regarding this project should refer to PIN 8026.08.

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II. Project Identification, Evolution, Conditions and Needs, and Objectives**A. Project Identification****1. Project Type**

- a. Highway Work: Roadway Resurfacing
- b. Bridge Work: Bridge Replacement

2. Project Location/Description

- a. Route Number: NY Route 120 and local streets
- b. Route Name:
*NY Route 120: Quaker Street/
Local Roads: Hunts Place, Douglas Road*
- c. State Highway Number: SH 1015
- d. Bridge Identification Number and Feature Crossed:

BIN 1037350 over Metro-North Railroad and Railroad Street
BIN 1037360 over Saw Mill River Parkway
- e. Municipality: Hamlet of Chappaqua, Town of New Castle
- f. County: Westchester
- g. Length: 0.3 km (0.18 miles) along NY Route 120
- h. Termini:

NY Route 120: (Quaker Road) approximately 60 m (200 ft.) west of Hunts Place/Douglas Road to approximately 35 m (115 ft.) east of the MNRR Bridge.

Local Roads: Approximately 30 m (100 ft.) of Hunts Place and Douglas Road in the vicinity of each respective intersection and approximately 30 m (100 ft.) of Railroad Street (Allen Place) under the bridge.

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i. Reference Markers

NY Route 120:	RM 120-8701-2140 to RM 120-8701-2138
BIN 1037350:	RM 120-8701-2138
BIN 1037360:	RM 120-8701-2138

3. NYSDOT Region Map – See Appendix A.

4. Project Map – See Appendix A.

B. Project Evolution

BIN 1037350 over Metro-North Railroad and Railroad Street (Allen Place) was built in 1930. The need for bridge repairs was identified in 1994 when five “Safety Flags” were issued for cracked, loose and delaminated concrete cover on the underside of the deck in both spans. In 1996, the continuing NYSDOT Bridge Inspection Program reported deficiencies in the deck, curbs, wearing surface, primary members (Span 1), and pedestals. An in-depth inspection performed in 1999 confirmed these reports and noted that rehabilitation was a possible alternative at the time. Subsequent biennial and interim inspections have been completed since 1999. These inspections have documented continued deterioration of the bridge. The original scope of work was for a bridge rehabilitation project.

In September 1998, NYSDOT personnel began meeting with Town of New Castle officials. During these meetings the Town identified several issues and/or concerns with NY 120 in the Hamlet of Chappaqua that they wanted the State to address as part of the bridge project. The Town hired a consultant to prepare the “Hamlet of Chappaqua Comprehensive Plan” which focused on traffic, parking and pedestrian issues within the project area. A Final Plan was submitted to the Town in 2003 and subsequent meetings with Town officials and the NYSDOT discussed the scope of the project.

Based on the information presented in the Comprehensive Plan, the NYSDOT expanded the project to include intersection improvements at King Street/South Greeley Avenue and at Quaker Street/South Greeley Avenue. The intersection improvements would help improve the traffic flow as documented in the Comprehensive Plan.

During the preliminary studies, the configuration of Quaker Street/South Greeley Avenue was designed as a “T” intersection with a traffic signal and as a roundabout. The roundabout alternative would have significant impacts to adjacent buildings and the existing on street parking due to the geometric requirements of a roundabout.

Since the slope across the roundabout should not exceed 4.0%, a retaining wall would be required at the east edge, thus reducing parking and access to the adja-

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cent buildings. Additionally, the close proximity of the proposed roundabout to the King/Greeley intersection and the Woodburn/South Greeley intersection would not allow a roundabout to function as intended.

The NYSDOT presented the two alternatives to the Town and a consensus could not be reached among the concerned local residents and the Town officials. Based on this and the deteriorated condition of the bridge, the NYSDOT in November 2005 made a decision to eliminate any work to the east of the bridge from the current project. The project will be designed to accommodate future reconstruction work to the east of the bridge.

The Initial Project Proposal (IPP) was completed and approved by the Regional Director on November 7, 1994.

The scope of the project was approved by the Region Planning and Program Manager (RPPM) on March 16, 2006.

C. Conditions and Needs

1. Transportation Conditions, Deficiencies and Engineering Considerations

a. Functional Classification and National Highway System (NHS)

NY Route 120 (Quaker Street), within the project limits, is functionally classified as an urban arterial and is not on the National Highway System (NHS). NY Route 120 is not a Qualifying or Access Highway on the National Network of Designated Truck Access Highways, is not part of the 4.9 m (16 ft.) Vertical Clearance Network and the project are not within 1.6 kilometers (1 mile) of a Qualifying Highway.

Hunts Place, Douglas Road and Railroad Street are classified as local roadways.

b. Ownership and Maintenance Jurisdiction

NY Route 120 is owned and maintained by the New York State Department of Transportation and BIN 1037350 is jointly owned and maintained by the New York State Department of Transportation and the Metro-North Railroad. The stairways leading from the bridge to the parking lot are jointly owned and maintained by Metro-North Railroad and the Town of New Castle.

BIN 1037360 over Saw Mill River Parkway is owned and maintained by the New York State Department of Transportation.

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All local roadways are owned and maintained by the Town of New Castle. The sidewalk on NY Route 120 is maintained by the Town of New Castle.

c. Culture, Terrain and Climatic Conditions

This project is located in the Hamlet of Chappaqua and the Town of New Castle, both suburban areas. The Hamlet of Chappaqua along South Greeley Avenue (east of the Bridge) is commercial in nature. The terrain is rolling. There are no unusual climatic conditions within the project vicinity.

d. Control of Access

There is no control of access within the project limits.

e. Existing Highway Section

- (1) Right-of-Way Width – The right-of-way (ROW) width along NY Route 120 is generally 30.2m (99 ft.) on Quaker Street. The ROW width of all local roadways is 15.1m (49.5 ft.).
- (2) Lanes and Shoulders –All lanes and offsets are paved. The existing sections are as follows:

NY Route 120:

Quaker Street (including the bridge approaches) generally consists of one 3.6 m (12 ft.) travel lane and one, 0.95 m - 1.5 m (3 ft. - 5 ft.) curb offset in each direction. The curb offset is 0.95 m (3 ft.) at the bridge approach.

Immediately east of the Quaker/Hunts/Douglas intersection, Quaker Street widens to accommodate a westbound left turn lane onto Douglas Road. The total existing curb to curb width is 10.3 m (34') which accounts for the 3.35 m (11') turn lane, a 3.35 m (11') westbound lane and a 3.6 m (12') eastbound lane. There are no curb offsets within the turn lane area.

BIN 1037350 consists of one 3.6 m (12 ft.) travel lane and one, 0.95m (3 ft.) curb offset in each direction. The bridge has a total out-to-out width of 12.65 m (41.5 ft.).

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BIN 1037360 over Saw Mill River Parkway consists of one 3.6 m (12 ft.) travel lane and one, 0.972m (3 ft.) curb offset in each direction. The bridge has a total out-to-out width of 13.1 m (43.0 ft.).

Hunts Place: Consists of one 3.6 m (12 ft.) travel lane and one, 0.95 m (3 ft.) curb offset in each direction for a total curb-to-curb width of 9.1 m (30 ft.).

Douglas Road: Consists of two 3.3 m (11 ft.) lanes (left-turn and right-turn) and a 0.9 m (3 ft.) curb offset in the north bound direction and one 3.3 m (11 ft.) travel lane and 0.9 m (3 ft.) shoulder in the southbound direction for a total curb-to-out width of 11.7 m (38 ft.).

Railroad Street (Allen Place): Consists of one 3.3 m (11 ft.) travel lane and one, 2.4 m (8 ft.) parallel parking lane in the southbound direction and one 3.3 m (11 ft.) travel lane in the northbound direction for a total curb-to-curb width of 9 m (30 ft.) beneath BIN 1037350. North of the bridge, Allen Place is a one-way, southbound only street with one 3.3 m (11 ft.) travel lane and one, 2.4 m (8 ft.) parallel parking lane.

- (3) Curb – Concrete curbs exist on both bridges and their NY Route 120 approaches. Curb on NY Route 120 begins east of Hunts Place and continues through the project limits. Hunts Place has both curbed and uncurbed sections and Douglas Road does not have curbing. All curbing is in generally fair to good condition and the curb height, varies slightly throughout the project area from 100 mm (4 in.) to 175 mm (7 in.) and averages 150mm (6 in.).
- (4) Median – There are no medians within the project limits.
- (5) Grades and Curves - Existing vertical and horizontal alignments are given in the following tables. The data have been taken from record plans and were verified using the topographic survey.

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**TABLE II-1
EXISTING VERTICAL CURVES**

APPROX. PVI LOCATION*	Length of Curve (m)	Grades (%)	Sight Distance (m)
NY 120/ Hunts Place Intersection	112	-4.5, 5.0	63 (sag)
NY 120 (on Bridge)	61	5.0, -8.5*	54 (crest)

* See Section I.C.j.(1) for further details

**TABLE II-2
EXISTING HORIZONTAL CURVES**

LOCATION	RADIUS (m)
NY Route 120, north of Hunts Place Intersection	100
NY Route 120, near Hunts Place Intersection	450
NY Route 120, west of bridge	128
NY Route 120, at east end of project	63

- (6) Intersection Geometry and Conditions – There is one intersection within the project limits.

- The NY Route 120 (Quaker Road) and Hunts Place/Douglas Road intersection is signalized and is located 180 m (590 ft.) west of BIN 1037350. The NY Route 120 eastbound approach contains a single lane while the westbound approach contains a left-turn lane and shared (thru/right) lane. The Hunts Place single-lane, southbound approach is skewed approximately 60°, while the two Douglas Road northbound approach lanes are nearly perpendicular to NY Route 120.

The pavement exhibits minor cracking and pavement striping is generally in poor condition.

- (7) Parking Regulations and Parking Related Conditions

NY Route 120:

Parking is not permitted along Quaker Street within the project limits. There are no signs posted which would prohibit parking, however, there is no space available.

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Hunts Place: Parking is not permitted on Hunts Place within the project limits. There are no signs posted which would prohibit parking, however, there is no space available.

Douglas Road: Parking is not permitted on Douglas Road within the project limits. There are no signs posted which would prohibit parking, however, there is no space available.

Railroad Street (Allen Place): Parking is permitted on Railroad Street (Allen Place). A total of nine (9) on-street, parallel parking spaces are located "below the bridge" while a total of sixteen (16) on-street, angled parking spaces are located between the bridge and Allen Place. All parking spaces are located on the west side of the road.

There are also several parking lots located adjacent to the project on the north and south side of the bridge over Railroad Street.

(8) Roadside Elements

- (a) Sidewalks exist on NY Route 120 within the project corridor. Since the sidewalk on Route 120 is adjacent to the curb line, there is no snow storage area. Grass and concrete snow storage areas exist in some areas on local roadways. There are no existing bikeways within the project limits.
- (b) There is one residential driveway located near the intersection of Route 120 and Hunts Place. No Commercial driveways exist within the project limits.
- (c) There are utility poles, street lights and trees on both sides of the roadways. The existing clear zone width (from the travel lane to the face of the railing/parapet on NY Route 120 is approximately 2.4 m (8 ft.) and is 1.2 m (4 ft.) on the side roads.

f. Abutting Highway Segments

The abutting highway to the proposed project is similar in lane, shoulder and curb offset widths and condition to that within the project limits. There are no planned improvements for the abutting

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sections of highway in the foreseeable future other than routine maintenance.

g. Speeds and Delay

- (1) Existing Speed Limit - The posted speed limit on NY Route 120 within the project limits is 48 km/h (30 mph). All local roadways have posted speed limits of 48 km/h, except Railroad Street (Allen Place) which has a posted speed limit of 24 km/h (15 mph).
- (2) Actual Operating Speed - A radar study performed by Regional Bridge Design personnel on March 30, 1999 revealed an 85th percentile operating speed of 53.1 km/h (33 mph). The speed study was performed 100 m (300 ft.) west of BIN 1037350 on NY Route 120. See Appendix C for study documentation.
- (3) Travel Speed and Delay Runs for Existing Conditions - Travel speed and delay runs have not been completed for the project corridor.
- (4) Travel Time and Delay Estimates - There are no congestion problems within the project limits.

h. Traffic Volumes

(1) Existing Traffic Volumes -

Existing (2006) traffic volumes were determined using the 2001 traffic data from the Hamlet of Chappaqua Comprehensive Plan and a 0.5% growth factor. **Table II-3** provides the existing traffic volumes for the project corridor:

**TABLE II-3
EXISTING (2006) TRAFFIC VOLUMES
NY ROUTE 120**

NY ROUTE 120 SEGMENT	AADT	DHV	DDHV	% TRUCKS
Quaker Street/ South Greeley Avenue	13,925	1,293	716	5

NY Route 120 serves as a through route and provides local access for automobiles, large trucks, school buses, public buses and emergency vehicles.

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(2) Forecast, No Build Traffic Volumes –

The design year selected for the project is Estimated Time of Completion plus 30 years (ETC+30) in accordance with “Design Year Traffic Forecasts”, Appendix 5 of the Project Development Manual. A growth factor of 0.5% was used to determine forecasted volumes. **Table II-4** provides the forecasted, no-build traffic volumes for the project corridor:

**TABLE II-4
FORECAST (2039), NO-BUILD TRAFFIC VOLUMES
NY ROUTE 120**

NY ROUTE 120 SEGMENT	AADT	DHV	DDHV	% TRUCKS
Quaker Street/ South Greeley Avenue	16,117	1,506	836	5

See Appendix D for traffic count diagrams.

i. Level of Service

Level of Service is a qualitative measure describing operational conditions within a traffic stream and the perception of motorists. Operational conditions are described in terms of speed and travel time, freedom of maneuver, traffic interruptions, comfort and convenience, and safety. Levels of Service range from A to F, with A describing free flow traffic operations with little or no delay to F which is a breakdown of flow.

A capacity analysis is typically used to determine the ability of a street to accommodate traffic by establishing a Level of Service. Table II-5 provides the existing and forecasted no build level of service level of service for the Quaker Street/Hunts Place/Douglas Road intersection.

**TABLE II-5
NO BUILD LEVEL OF SERVICE
QUAKER STREET/HUNTS PLACE/
DOUGLAS ROAD INTERSECTION**

Year	Level of Service	
	A.M.	P.M.
2006	A	A
2009	A	A
2039	B	B

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j. Non-Standard Features and Non-Conforming Features

(1) Non-Standard Features -

- (a) The actual existing grade on Quaker Street is approximately -8.5%. The maximum, standard percent grade for rolling terrain is 8.0%.
- (b) The existing stopping sight distance for the crest curve on Quaker Street over the Metro-North Railroad is approximately 54 m (177 ft.). The minimum standard stopping sight distance is 85 m (280 ft.).
- (c) On NY Route 120 (Quaker Street), the existing horizontal curve #1 located within the intersection of Route 120 and Hunts Place has a radius of 100 m. The minimum standard radius is 135 m.
- (d) On NY Route 120 (Quaker Street), the existing horizontal curve #3 located immediately west of BIN 1037350 has a radius of 132 m. The minimum standard radius is 135 m.
- (e) On NY Route 120 (Quaker Street), the existing horizontal curve #4 located within the "Y" intersection has a radius of 61m. The minimum standard radius is 135 m.
- (f) The superelevation rate of curve #1 (1.95%) is non-standard due to the grading associated with the intersection.
- (g) The superelevation rate of curve # 3 is nonstandard. The existing rate is 3.5% and the minimum standard rate is 4.0%.
- (h) The superelevation rate of curve #4 (0.5%) is non-standard due to the grading associated with the "Y" configuration of the intersection.
- (i) The horizontal clearance of BIN 1037350 over Metro-North Railroad (Span 1), 6.20 m (20 ft. - 4 in.), is less than the minimum horizontal clearance required.

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- (j) The vertical clearance over the Metro-North Railroad is proposed to be 6.02m which is the same as the existing clearance. The minimum vertical clearance criteria are 6.71 m.
 - (k) Sidewalk ramps throughout the project area are not in compliance with the Americans with Disability Act (ADA) standards.
- (2) Non-Conforming Features –
- (a) Recently installed box beam guide railing on the eastern approach to BIN 1037350 is not connected to the bridge parapet.
 - (b) A broken back curve is located on NY Route 120 between curve # 1 and curve # 2. The tangent distance between the curves is approximately 16 m (52 ft.).
 - (c) A broken back curve is located on NY Route 120 (Quaker Street) with a tangent length of approximately 71 m (233 ft.) between them.
 - (d) The reverse curve between curve # 2 and curve # 3 is nonconforming due to the short tangent distance approximately 23 m (75 ft.) between them.
- k. Safety Considerations and Accident History

Traffic accident information was reviewed for the most recent three-year period, January 2001 – December 2003. The accident analysis covered a length of approximately 0.3 km (0.18 mi.) from Hunts Place (RM 120 8701 2140) to west of the Quaker/South Greeley intersection (RM 120 8701 2138).

A total of 18 accidents occurred on NY Route 120 within the area described above. The linear accident rate for this roadway, 2.01 accidents per million vehicle kilometers (acc/MVKM), is just slightly less than the Statewide average of 2.27 acc/MVKM for an urban two-lane, undivided highway. Table II-5 provides the linear accident rates for the following segments within the project corridor.

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**TABLE II-6
LINEAR ACCIDENT RATE SUMMARY**

NY ROUTE 120 SEGMENT	ROUTE MARKERS	NO. OF ACCI- DENTS	ACCIDENT RATE (acc/MVKM)	STATEWIDE AVERAGE (acc/MVKM)
Quaker Street	120 8701 2140 to 120 8701 2138	18	2.01	2.27

A total of 12 accidents occurred at the NY Route 120 (Quaker Street) and Hunts Place/Douglas Road intersection. The accident rate for this intersection, 0.98 accidents per million entering vehicles (acc/MEV), is higher than the Statewide average of 0.60 acc/MEV for an urban four-legged, signalized intersection. None of the accidents involved pedestrians or bicyclists.

See **Appendix D** for accident rate calculations.

1. Pavement and Shoulder Conditions

The asphalt pavement surfaces on NY Route 120 within the project limits appear to be in generally good condition. Approaches to BIN 1037350 were recently overlaid and rated a 5 (minor deterioration) in the most recent Biennial Bridge Inspection Reports.

The asphalt pavement surface on other local streets is in generally fair to good condition. However, the pavement does show signs of unevenness, cracking, and has been patched in numerous locations within the project limits. Pavement striping varies from good to poor throughout the project limits.

m. Guide Rail, Median Barriers, Impact Attenuators

Bridge railing and box beam railing exist on NY Route 120. The rustic box beam guide railing is in generally good condition and there is new box beam (non-rustic) railing on the approaches to the east of the bridge. Most of the box beam railing conforms to current NYSDOT standards. However, the new railing on the approaches is not connected to the bridge parapet.

There are no median barriers or impact attenuators within the project limits.

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n. Traffic Control Devices

There is one signalized location within the project limits. The NY Route 120 (Quaker Street) and Hunts Place/Douglas Road intersection was signalized in 1982 and updated in 1997 under contract D256734.

The existing traffic signs within the project limits are in fair to good condition.

o. Structures

BIN 1037350, NY Route 120 (Quaker Street) over Metro-North Railroad and Railroad Street (Allen Place)

(1) Description

Bridge:

RM	RM 120-8701-2138
Structure Type:	Two-span, steel multi-rigid frame bents
Structure Length:	41.30 m (135.5 ft.)
Spans:	Span 1 - 23.0m (75.5 ft.) Span 2- 14.8m (48.5 ft.)
Curb-to-Curb Width:	9.14 m (30 ft.)
Out-to-Out Width:	12.65 m (41.5 ft.)
Travel Lanes:	2 @ 3.6 m (12 ft.)
Curb Offsets:	0.95 m (3 ft.) each side
Sidewalks:	1.2± m (4± ft.) each side
Skew:	0°
Special Features Carried:	Lighting

Approaches:

The approaches to the bridge generally consist of one 3.6 m (12 ft.) travel lane and one, 0.95 m (3 ft.) curb offset in each direction. Sidewalk is located on both sides of the roadway, with a width of ±1.2 m (±4 ft.). There is a horizontal curve west of the bridge. There is a crest vertical curve on the bridge with a grade of +5.0% to the west and a grade of -8.5% to the east. The existing stopping sight distance is 54 m (177 ft.).

(2) Clearances - The clearances associated with Span 1 over the Metro-North Railroad are:

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Vertical Clearance: 6.02 m (19.75 ft.) – 6.71 m is the minimum allowed.

Horizontal Clearance: 6.20 m (20.34 ft.) - 4.99 m is the minimum allowed to railroad.

The clearances associated with Span 2 over Railroad Street (Allen Place) are:

Vertical Clearance: 5.2m (17.0 ft.) at the east curb under the north fascia beam

Horizontal Clearance: 2.24m (7.35 ft.) from curb line to face of abutment.

2.30m (7.54 ft.) from curb line to face of pier.

- (3) History and Deficiencies – The bridge was built in 1930. The need for bridge repairs was identified in 1994 when five “Safety Flags” were issued for cracked, loose and delaminated concrete cover on the underside of the deck in both spans. In 1996, the continuing NYSDOT Bridge Inspection Program reported deficiencies in the deck, curbs, wearing surface, primary members (Span 1), and pedestals. An in-depth inspection performed in 1999 confirmed these reports. Subsequent biennial and interim inspections have documented continued deterioration of the bridge.

(4) Inspection

NYSDOT Condition Rating: 4.039 (6/2/2005)
FHWA Sufficiency Rating: 48.8 (07/08/2005)
Last Inspection Date: 6/2/2005
Posted load: R-Posted
NYSDOT Gen. Rec.: 3

New York State Condition Ratings are weighted averages of the individual bridge components. The ratings reflect the bridge’s ability to function structurally. Rated on a scale of 1 through 9, structures rated 5 or less are considered deficient and should be programmed for either rehabilitation or replacement. The following scale is used for inspections.

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- 1 Totally deteriorated or in failed condition.
- 2 Used to shade between ratings of 1 and 3.
- 3 Serious deterioration or not functioning as originally designed.
- 4 Used to shade between ratings of 3 and 5.
- 5 Minor deterioration but functioning as originally designed.
- 6 Used to shade between ratings of 5 and 7.
- 7 New condition; no deterioration.
- 8 Not applicable.
- 9 Condition and/or existence unknown.

Abutments: The begin and end abutments seats and pedestals are both rated 9 because they are encased in concrete and are not visible for inspection. The begin and end abutment stems are both rated 5 (minor deterioration).

Wingwalls: Wingwalls are generally solid and are rated 5.

Approaches: The approach pavement is in fair condition and rated 5. The guide railing is rated 6 (good condition). However, the recently installed box beam guide railing is not connected to the bridge railing.

Deck Elements: The concrete sidewalk and fascias are significantly spalled and cracked. The sidewalk and fascia in Span 1 is rated 1 (failed) and Span 2 is rated 5. A safety flag has been issued for the sidewalk on Span 1 near the begin abutment, left side. The railing on Span 1 exhibits major corrosion, is cracked at a few locations and is detached in another and was rated 2 (serious to near total deterioration). The railing on the left staircase has loose connections located at the top and middle portions of the staircase.

Superstructure: The underside of the deck slab exhibits areas of transverse cracks with efflorescence and stalactite formation. The primary members of Span 1 show moderate

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to heavy corrosion, with fascia girders showing section losses of 15% to 20% at the web and 20% to 25% at both the top and bottom flanges. The deck and primary members on both spans are rated 3 (serious deterioration). The paint is in very poor condition and both spans are rated 2.

Pier: The overall pier recommendation is a 5.

Utilities: The lighting is in good condition on both Spans 1 and 2 and rated 7 (no deterioration) and 6, respectively.

- (5) Restrictions - The structure was posted for "R-Permit Restriction" in January 1997.

There are no restrictions imposed by public or emergency equipment.

- (6) Future Conditions - Without replacement or significant maintenance and rehabilitation, the bridge will continue to deteriorate. This continued deterioration will result in a permanent closing or collapse of the bridge at some time in the future.

- (7) Waterway - The bridge does not cross a waterway.

BIN 1037360, NY Route 120 over the Saw Mill River Parkway

- (1) Description -

Bridge:

RM	RM 120-8701-2137
Structure Type:	Single-span, concrete frame
Structure Length:	20.1 m (66 ft.)
Spans:	17.3 m (57 ft.)
Curb-to-Curb Width:	9.14 m (30 ft.)
Out-to-Out Width:	13.1 m (43 ft.)
Travel Lanes:	2 @ 3.6 m (12 ft.)
Curb Offsets:	0.95 m (3 ft.) each side
Sidewalks:	1.52 m (5 ft.) each side
Skew:	7°
Special Features Carried:	None

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Approaches:

The approaches to the bridge generally consist of one 3.6 m (12 ft.) travel lane and one, 0.95 m (3 ft.) curb offset in each direction. Sidewalk is located on both sides of the roadway, with a width of 1.52 m (5 ft.).

- (2) Clearances – The clearance associated with the span over Saw Mill River Parkway is:

Posted Vertical Clearance: 3.12 m (10 ft. – 3 in.)

Vertical Clearance: 3.58 m (11 ft. – 9 in.)

Horizontal Clearance: 1.05 m (3 ft. – 5 in.)

- (3) History and Deficiencies – The bridge was built in 1930. A 2004 inspection report noted several deficiencies in sidewalks and curbs. The curbs have spalling and minor settlement with vegetation growth occurring in the gaps. The left curb has several spalls between segments. The right sidewalk is spalled and uneven with minor cracks and loose concrete.

- (4) Inspection

NYSDOT Condition Rating: 4.900 (08/16/2004)

FHWA Sufficiency Rating: 59.3 (08/16/2004)

Last Inspection Date: 08/16/2004

Posted load: None

NYSDOT Gen. Rec.: 5

New York State Condition Ratings are weighted averages of the individual bridge components. The ratings reflect the bridge's ability to function structurally. Rated on a scale of 1 through 7, structures rated 5 or less are considered deficient and should be programmed for either rehabilitation or replacement.

Abutments: The begin and end abutment stems are both rated 5 (minor deterioration).

Wingwalls: Generally solid and are rated 5.

Approaches: The approach pavement is in fair condition and rated 5. The guide railing is rated 6 (good condition).

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Deck Elements: The concrete sidewalk and fascias are rated 4. The right sidewalk is spalled along panel joints and the surface is uneven. There are also minor cracks and loose concrete. The railings are in good condition and are rated 6.

Superstructure: The primary member is a concrete frame and is rated 5.

Pier: The structure is a single span bridge; no pier exists.

Utilities: There are no utilities on this bridge.

(5) Restrictions – None.

(6) Waterway - The bridge does not cross a waterway.

p. Hydraulics of Bridges and Large Culverts

A concrete box culvert is located under Douglas Road, south of the intersection with NY Route 120 (Quaker Street). Based on preliminary field inspections, this new culvert appears to be functioning adequately.

q. Drainage Systems

A small, closed drainage system is located along NY Route 120 (Quaker Street) at the intersection of Hunts Place/Douglas Road. The elements of this system are in fair condition. The State owns the drainage system on NY Route 120 within the project limits.

r. Soil and Foundation Conditions

There are no unique soil conditions that will affect the project. Soils east of the bridge are identified as Uf - Urban Land, by the Soil Survey for Putnam and Westchester Counties. Uf soil types are identified as those that are at least 60% covered with buildings or other structures. This is typical of villages and business centers. Soils west of the bridge are ChC – Charlton loam, 8 to 15 percent slopes. The soil properties for the Charlton Loam are:

Water Table:	Depth of 1.83 m or greater
Permeability:	Moderate or moderately rapid
Available Water Capacity:	Moderate
Reaction:	Very strongly acid to moderately acid
Surface Runoff:	Medium
Erosion Hazard:	Moderate
Depth to Bedrock:	More than 1.5 m

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s. Utilities

BIN 1037350 and BIN 1037360 carry electric lines for street lighting. No other utilities are carried by the bridges; however, the following utilities are located within the project limits:

Cable Television –	Cablevision owns aerial cable television lines.
Electric –	ConEdison owns overhead and underground electric lines.
Fiber Optic –	Unknown
Gas –	ConEdison owns and maintains the gas mains and services.
Sanitary –	The Town of New Castle owns the sanitary lines. The sanitary system is maintained by ESI Engineering in Valhalla.
Telephone –	Verizon owns overhead telephone lines.
Water –	The Town of New Castle owns and maintains the water system.

A preliminary field investigation was made and it was determined that cable television, electric, and telephone lines, as well as associated poles may be affected by construction in or near the project limits. Coordination with utility companies for relocation of affected utilities will be accomplished during final design.

t. Railroad Crossings

NY Route 120 crosses two sets of railroad tracks that are owned and operated by the Metro-North Railroad. This commuter railway is a part of the Harlem Line. At this time, there are no known plans for additional tracks. The trains on the Harlem Line run, in the area of the project, by an electrically energized third rail.

The Chappaqua Station is located immediately southeast of the bridge. The pedestrian platform between the two tracks extends from the station to approximately the north fascia line of the bridge. There is 1.07 m (3.5 ft.) horizontal clearance from the rail to the edge of the platform. There is 2.16 m (7.1 ft.) clearance from the outside rail of the track to the existing fence. Based on recent field survey information, the minimum existing vertical clearance above the easterly track is 6.02 m (19.75 ft.), 6.10 m (20.0 ft.) above the westerly track. The point of minimum clearance above both tracks is below the right (south) fascia.

Currently, 71 trains pass under the bridge each day, with a maximum of 5 to 6 trains per hour during peak morning and afternoon

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periods. The length of each train varies from 4 to 10 cars, with an average length of 7 cars. Generally, the trains are slowing to a complete stop at the Chappaqua Railroad Station located nearly adjacent to the bridge. However, Metro-North Railroad has indicated that the maximum track speed is 113 km/hr (70 mph) north of the bridge, and 97 km/hr (60 mph) south of the bridge. Therefore, any train, which does not stop at the station, could be traveling between 113 km/hr and 97 km/hr.

Approximately 50% of all 70± daily trains are northbound, originating from Grand Central Terminal. Conversely, there are approximately 35 southbound trains to Grand Central Terminal. Northbound trains run from approximately 7:00 a.m. all the way through to 2:30 a.m. the following morning. Southbound trains run from 5:00 a.m. to 10:30 p.m. on average.

u. Visual Environment

The project is located in the Hamlet of Chappaqua, Town of New Castle in Westchester County. This area is generally characterized as gently rolling in relief. The surrounding land consists of suburban residential and "downtown" commercial uses. To the west of BIN 1037250, the project area is suburban residential with significant vegetative cover. To the east of BIN 1037350, the environment is urban with dense commercial development and several asphalt parking lots. The historic Chappaqua Train Station and Depot Plaza is located directly southeast of the project.

v. Provisions for Pedestrians and Bicyclists

NY Route 120 (Quaker Street), beginning at the Hunts Place/Douglas Road intersection, and BINs 1037350 and 1037360 have a 1.2± m (4± ft.) sidewalk for pedestrians and a paved curb offset that can be utilized by bicyclists on each side. The paved offset varies from 0 m to 0.95 m (3 ft.). Hunts Place and Douglas Road do not have accommodations for pedestrians. The Vehicle and Traffic law permits bicyclists to ride on the right side of the roadway or its shoulders. Bicyclists currently share the roadway with vehicular traffic. A Pedestrian Generator checklist is included in Appendix E.

Stairways, which connect NY Route 120 (Quaker Street) and Railroad Street (Allen Place), are located on the north and south side of the existing bridge between Span 1 and Span 2.

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Not all of the existing pedestrian provisions (i.e., stairs, sidewalk surface, ramps, and crosswalk markings) are in compliance with ADA standards.

NY Route 120 is not a part of any statewide or local bicycle route. The Mid-Hudson South Region Bicycle/Pedestrian Master Plan, dated June 2001 does not include proposed facilities for any of the State, County or local roadways within the project corridor.

w. **Planned Development for Area**

There are no known private or public development plans in the area that this project would affect or that would affect the project at the present time. The Chappaqua Train Station is currently being rehabilitated.

The Final Hamlet of Chappaqua Comprehensive Plan, prepared by Vollmer Associates, LLP was submitted to the Town of New Castle in March 2003. No formal adoption of this report has been made by the Town Board. This project is in conformance with the Chappaqua Comprehensive Plan.

x. **System Elements and Conditions**

This project should not have any effect on any other transportation projects. There are no known system deficiencies associated with the project.

y. **Environmental Integration**

The Chappaqua Train Station and Depot Plaza is located adjacent to the Route 120 bridge over MNRR. The station was constructed in 1902 and is listed on the National Register of Historic Places. To enhance pedestrian mobility, a new stairway that leads from the Route 120 bridge down to the existing train platform is being investigated and will be determined during final design. The new stairway would be constructed with similar materials and details as the existing stairways. This new access directly to the train platform would improve pedestrian mobility around the train station.

z. **Miscellaneous**

The large rock (boulder) at the NY Route 120 and Hunts Place/Douglas Road intersection will be removed and relocated outside of sight distance lines. This rock has some local historical significance as noted by the Town Historian, Mr. Gray Williams.

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2. Needs

a. Project Level Needs

(1) Pavement Needs

There are no significant pavement deficiencies within the projects limits and the pavement is in generally good condition. However, the pavement does show signs of unevenness, cracking, and has been patched in numerous locations within the project limits.

(2) Safety Needs

A total of 18 accidents occurred on NY Route 120 within the area described above. The linear accident rate for this roadway, 2.01 acc/MVKM, is slightly less than the State-wide average of 2.27 acc/MVKM for an urban two-lane, undivided highway. For a detailed analysis of the accident history, see Section II.C.1.k.

(3) Bridge Structural Needs

BIN 1037350, NY Route 120 over Metro-North Railroad and Railroad Street (Allen Place) is in very poor condition and continues to deteriorate. See Section I.C.1.o for a detailed description of the deficiencies.

BIN 1037360, NY Route 120 over the Saw Mill River Parkway needs repair work to the concrete sidewalk, fascias, and curbs, which exhibit spalled concrete at several locations. The asphalt wearing surface is nearing the end of its useful life and should be replaced.

(4) Capacity Needs

There are no capacity needs that will be addressed as a part of this project.

(5) Environmental Needs

This project will disturb an area of approximately 0.3 hectares (0.75 acres) of soil. This is less than the 0.4 hectare (1.0 acres) threshold for a Stormwater Pollution Discharge Elimination System (SPDES) Phase II permit.

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(6) Drainage Needs

Based on a field review and discussion with local residents, there do not appear to be any significant capacity related deficiencies with the existing drainage system. Many of the existing drainage structures are in poor condition with loose mortar, missing bricks, and sediment build-up. Frames and grates at some locations are cracked and loose. Many of the existing structures within the project limits need to be replaced.

b. Corridor or Area Needs

(1) Modal Interrelationship

NY Route 120 serves as a through route and provides local access for automobiles, trucks, school buses, and emergency vehicles. NY Route 120 is an east-west arterial across Westchester County and an important route for trucking and the movement of goods locally. It connects to NY Route 100 (Saw Mill River Road) on the east and U.S. Route 1 on the west. It provides indirect (via CR 79) service to the Metro-North Railroad but does not provide any direct service to any airport or port facilities.

(2) System Needs

NY Route 120 is an important east-west link in the Westchester County transportation system. The project is necessary to maintain this transportation link.

(3) Mobility Needs

Currently, BIN 1037350 is posted with an "R" permit restriction, which limits the movement of goods within the project area. If the bridge is allowed to deteriorate, it will have to be load posted and eventually closed to vehicular traffic. The resulting detour would seriously affect mobility in the area. There is no need for Intelligent Transportation Systems (ITS), Transportation System Management (TSM), or Transportation Demand Management (TDM) improvements within the project limits.

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(4) Social Demands and Economic Development

The need for bridge and highway reconstruction is not based on social demands or economic development deficiencies. The bridge improvements are necessary to address structural deficiencies. Many businesses exist along NY Route 120 and South Greeley Avenue (CR 79) in the Hamlet of Chappaqua. These businesses depend on NY Route 120 for the movement of supplies and customers.

c. Transportation Plans

The project is included in the current State Transportation Improvement Plan. The project is not part of an approved Congestion Management System or Major Investment Study.

The Final Hamlet of Chappaqua Comprehensive Plan, prepared by Vollmer Associates, LLP was submitted to the Town of New Castle in March 2003. The Town has decided that this project will not incorporate any work located east of BIN 1037350 as described in this Comprehensive Plan. The project will incorporate sufficient bridge width to accommodate 3 lanes of traffic and provisions for a future turn lane, as described in the Comprehensive Plan.

D. Objectives

The primary objectives of this project are to:

1. Provide a safe, non-deficient structural condition at NY Route 120 (Quaker Street) over the Metro-North Railroad and Railroad Street (BIN 1037350) for more than 30 years using cost-effective techniques to ensure adequate vehicular and structural capacity, and minimize maintenance and repair, and environmental impacts.
2. Develop a properly scaled Maintenance and Protection of Traffic Plan to safely accommodate traffic movements, pedestrians, and bicyclists, maintain adequate access to local business, and adequately accommodate the Metro-North Railroad operations.

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III. Alternatives

A. Design Criteria

1. Standards

This project will be designed based upon standards specified in Section 2 of the 2006 NYSDOT Bridge Manual with current addenda, and Chapter 2 of the NYSDOT Highway Design Manual (HDM).

2. Critical Design Elements

The design criteria for this project are listed in **Tables III-1** and **III-2** on the following pages. The existing and proposed values are included for comparison to the applicable standards.

The design speed, 60 km/h (37 mph), is consistent with or greater than the anticipated off-peak 85th percentile speed of 53.1 km/h (33 mph) west of BIN 1037250. The approximate existing off-peak 85th percentile speed was developed by a radar speed study performed on March 30, 1999 by Regional Bridge Design personnel. The Regional Traffic Engineer concurred with the design speed on April 13, 1999. See **Appendix G**.

3. Other Controlling Design Parameters

The design vehicle for this project is the Conventional School Bus (S-BUS-11).

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**TABLE III-1
DESIGN CRITERIA TABLE
NY ROUTE 120**

Main Line Design (in accordance with HDM 2-7)				
PIN	8026.08	NHSG/N	N	
Route No. & Name	NY Route 120 (Quaker Street)	Functional Class	Urban Arterial	
Project Type	Intersection Reconstruction Bridge Replacement	Design Classification (AASHTO Class)	Arterial	
% Trucks	5%	Terrain	Rolling	
ADT	13,925 (2006)	Truck Access Rte	NA	
Element	Standard Criteria	HDM's Reference	Existing Conditions	Proposed Conditions
1. Design Speed (See Note 1)	60 km/h	2.7.2.2 A	53.1 km/h 85th%	60 km/h
2. Lane Width		2.7.2.2 B		
Travel Lane	3.6 m (min.), 4.2 (des.)		3.6 m (see note 2)	3.6 m
Turning Lane	3.3 m (min.), 3.6 m (des.)		3.3 m	3.3 m- 3.6 m
Parking Lane	2.4 m (min.), 3.6 m (des.)		NA	NA
3. Bridge Roadway Width (total)	Approach Width	2.7.2.2 D	Approach Width	Approach Width
Travel Lane	3.6 m		3.6 m	3.6 m
Turning Lane	3.3 m min., 3.6 m des.		NA	3.6 m
Curb Offset	0.0 m min, 0.6 m des.		0.95 m	1.2 m
4. Grade (rolling)	8%	2.7.2.2 E	8.5%*	8.5%*
5. Horizontal Curvature	135 m @ e=4.0%	2.7.2.2 F	128 m @ e=4.0%*	132 m @ e= 4.0%
6. Superelevation Rate	4.0 % maximum	2.7.2.2 G	3.5% maximum*	4% maximum
7. Stopping Sight Distance	85 m minimum	2.7.2.2 H	54 m*	56 m*
8. Horizontal Clearance		2.7.2.2 I		
With barrier	0.0 m		0.0 m	NA
Without barrier	0.5 m		1.2m	1.45m min.
At intersections	1.0 m		1.2m	1.5m min.
9. Vertical Clearance		2.7.2.2 J		
Metrolink Railroad	6.71 Minimum		6.02 m*	6.02 m*
Railroad Street (Allen Place)	4.3m (min.), 4.45m (des.)		5.20m	5.20m
10. Pavement Cross Slope		2.7.2.2 K		
Travel Lanes	1.5 % to 2.0 %		2.0%	2.0%
Parking Lanes	1.5% to 5.0 %		2.0 %	2.0%
11. Rollover		2.7.2.2 L		
Between lanes	4.0 % max		4.0 % max	4.0 % max
At edge of traveled way	8.0 % max		8.0 % max	8.0 % max
12. Structural Capacity		2.7.2.2 M	MS 20	
Replace	MS 23			MS 23
13. Control of Access	Uncontrolled		Uncontrolled	Uncontrolled
14. Pedestrian Accommodations	ADA and HDM Chapter 18	ADA and HDM Chapter 18	Non-standard features exist	ADA and HDM Chapter 18
15. Median Width			NA	NA

* Non-standard Feature, ** See Section III.C.2.a (1) for further discussion

Note 1: The Regional Traffic Engineer has concurred with the selected design speed. See Appendix G.

Note 2: The travel lane width is reduced to 3.35 m in the vicinity of the turning lane east of Hunts/Douglas.

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**TABLE III-2
DESIGN CRITERIA TABLE
LOCAL STREETS**

Main-Line Design (in accordance with HDM's 2.0)					
PIN	8026.08	NHS (V.N.)	N		
Route No. & Name	Hunts Place, Douglas Road, Railroad Street (Allen Place)	Functional Class	Local Street-Urban		
Project Type	Intersection Reconstruction Bridge Replacement	Design Classification (AASHTO Class)			
% Trucks	<2%	Terrain	Rolling		
ADT	NA	Truck Ages (Rt)	NA		
Element	Standard Criteria	HDM's Reference	Existing Conditions	Proposed Conditions	
1. Design Speed (See Note 1)	50 km/h	2.7.4.2 A	Unknown	50 km/h	
2. Lane Width		2.7.4.2 B			
Travel Lane =	3.0 m (min.), 3.3 (des.)		Varies	3.3 m	
Turning Lane =	2.7 m (min.), 3.0 m (des.)		NA	3.3 m	
Parking Lane =	2.4 m (min.), 3.3 m (des.)		NA	NA	
3. Grade	8%	2.7.4.2 E	Varies, <8%	Varies, <8%	
4. Horizontal Curvature	86 m @ e=4.0%	2.7.4.2 F	NA	NA	
5. Superelevation Rate	4.0 % maximum	2.7.4.2 G	NA	NA	
6. Stopping Sight Distance	65 m minimum	2.7.4.2 H	Restricted Horizontally See note 1	Restricted Horizontally See note 1	
7. Horizontal Clearance		2.7.4.2 I			
With barrier =	0.0 m		0.0 m	0.0 m	
Without Barrier =	0.5 m		1.2 m	1.2 m	
At intersections =	1.0 m		0.9 m	0.9 m	
8. Pavement Cross Slope		2.7.4.2 K			
Travel Lane =	1.5 % to 2.0 %		2.0%	2.0%	
Parking Lane =	1.5 % to 5.0 %		2.0 %	2.0%	
9. Rollover		2.7.4.2 L			
Between lanes =	4.0 % max		4.0 % max	4.0 % max	
At edge of traveled way =	8.0 % max		8.0 % max	8.0 % max	
10. Pedestrian Accommodations	ADA and HDM Chapter 18	ADA and HDM Chapter 18	Non-standard features exist	ADA and HDM Chapter 18	

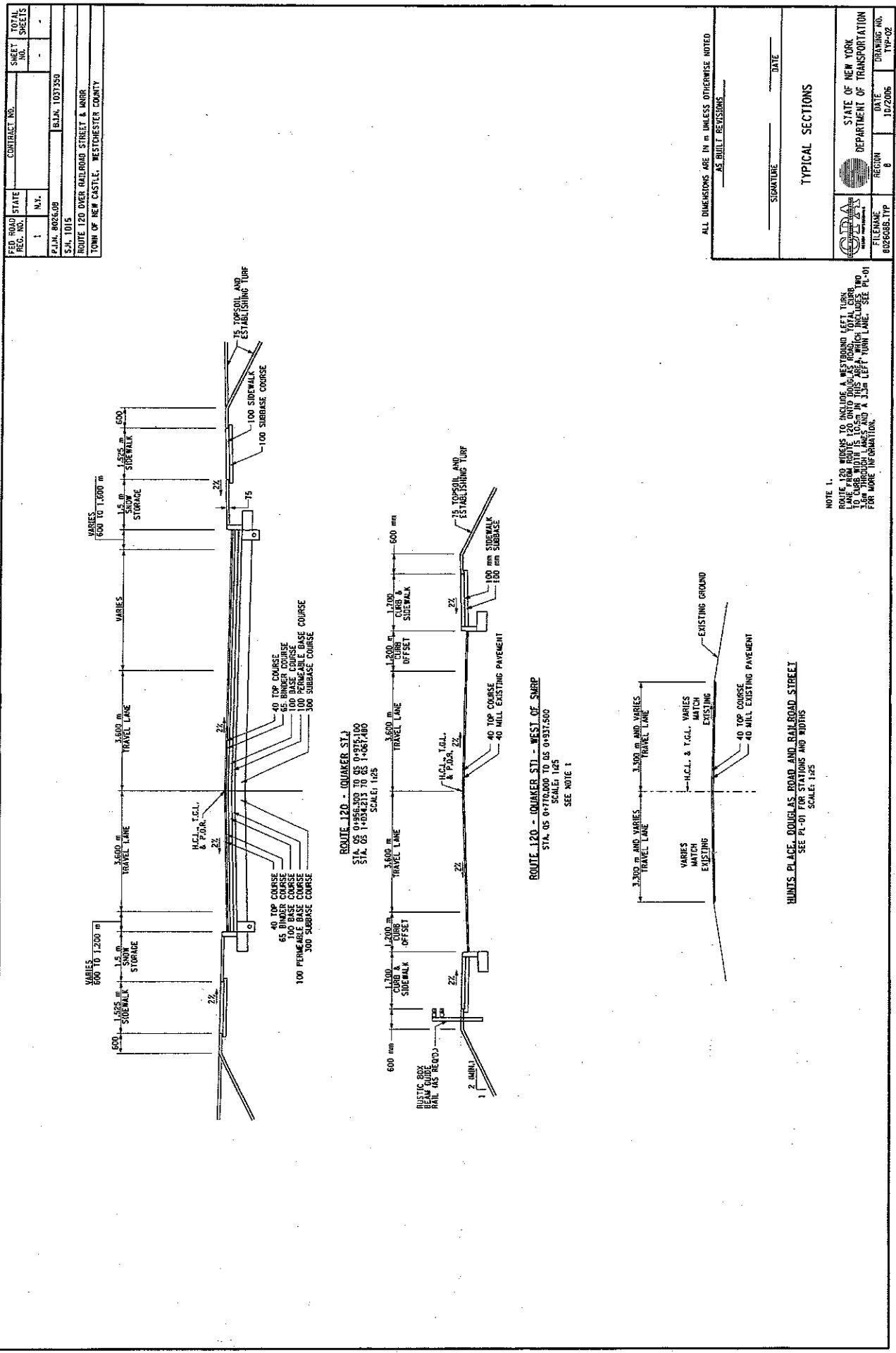
* Non-standard Feature

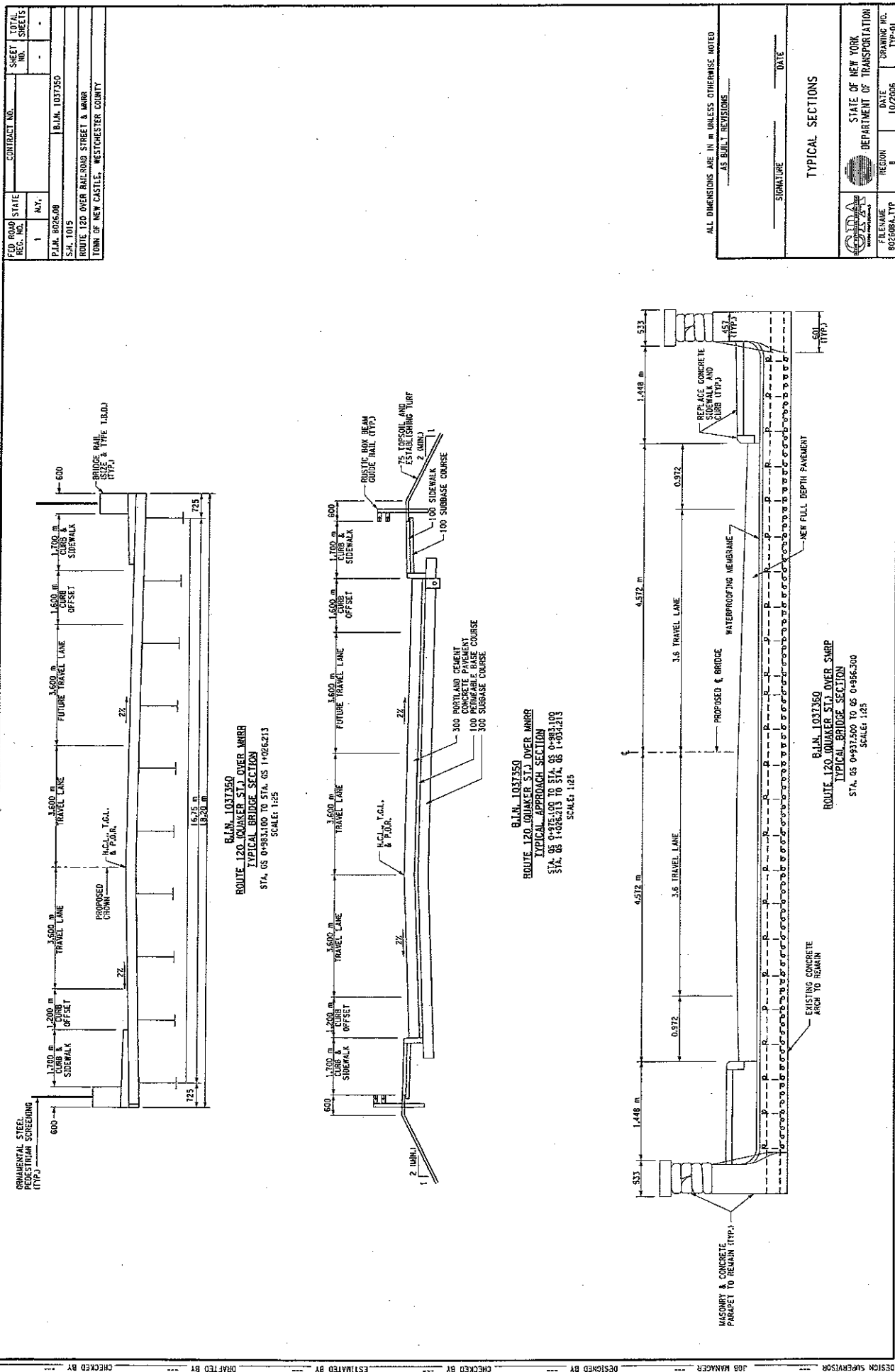
Note 1: The curves on Hunts Place at Route 120, Douglas Road at Mill River Road and Mill River Road at Route 120 have restricted horizontal sight distances due to their curvatures, but are considered intersection curves and are controlled by stop signs or signals.

B. Alternatives Considered

The three (3) design alternatives, four (4) M&PT sub-alternatives considered for this project are:

- Alternative No. 1 – No Action/Maintenance
- Alternative No. 2 – Bridge Rehabilitation



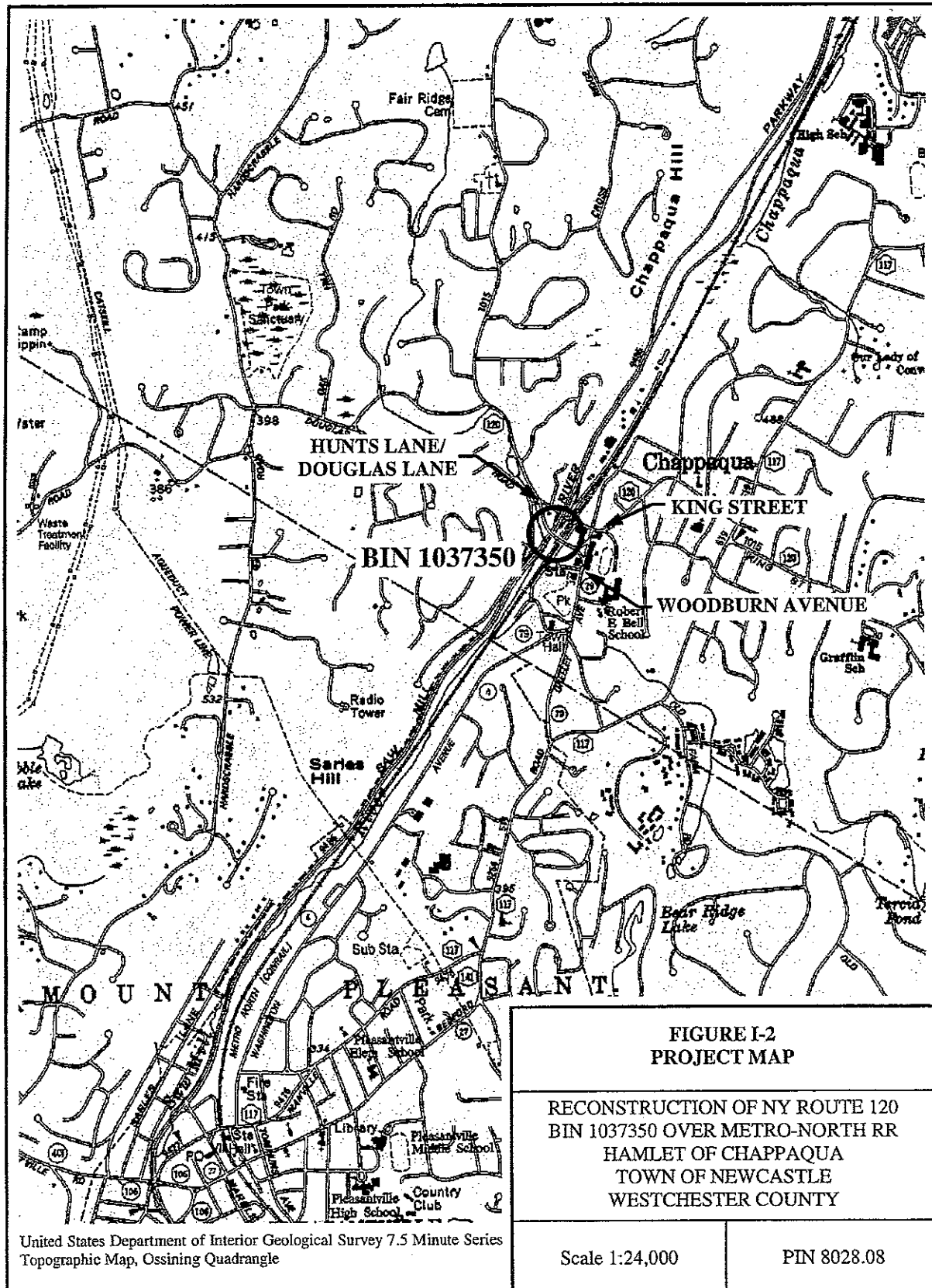


APPENDIX B
Typical Sections, Plans and Profiles for Feasible Alternative
Alternative No. 3 – Bridge Replacement

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PROJECT SCOPING REPORT

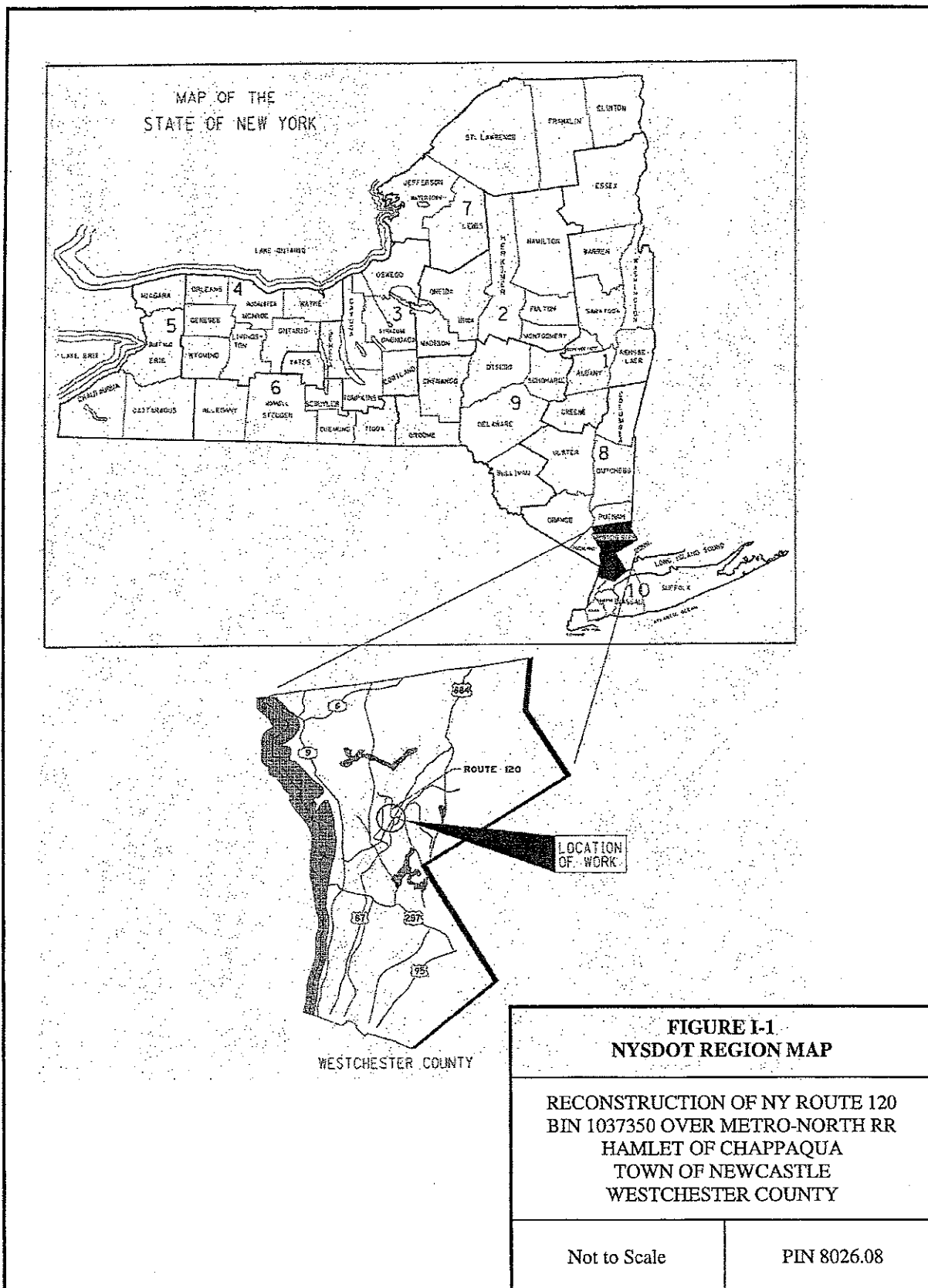
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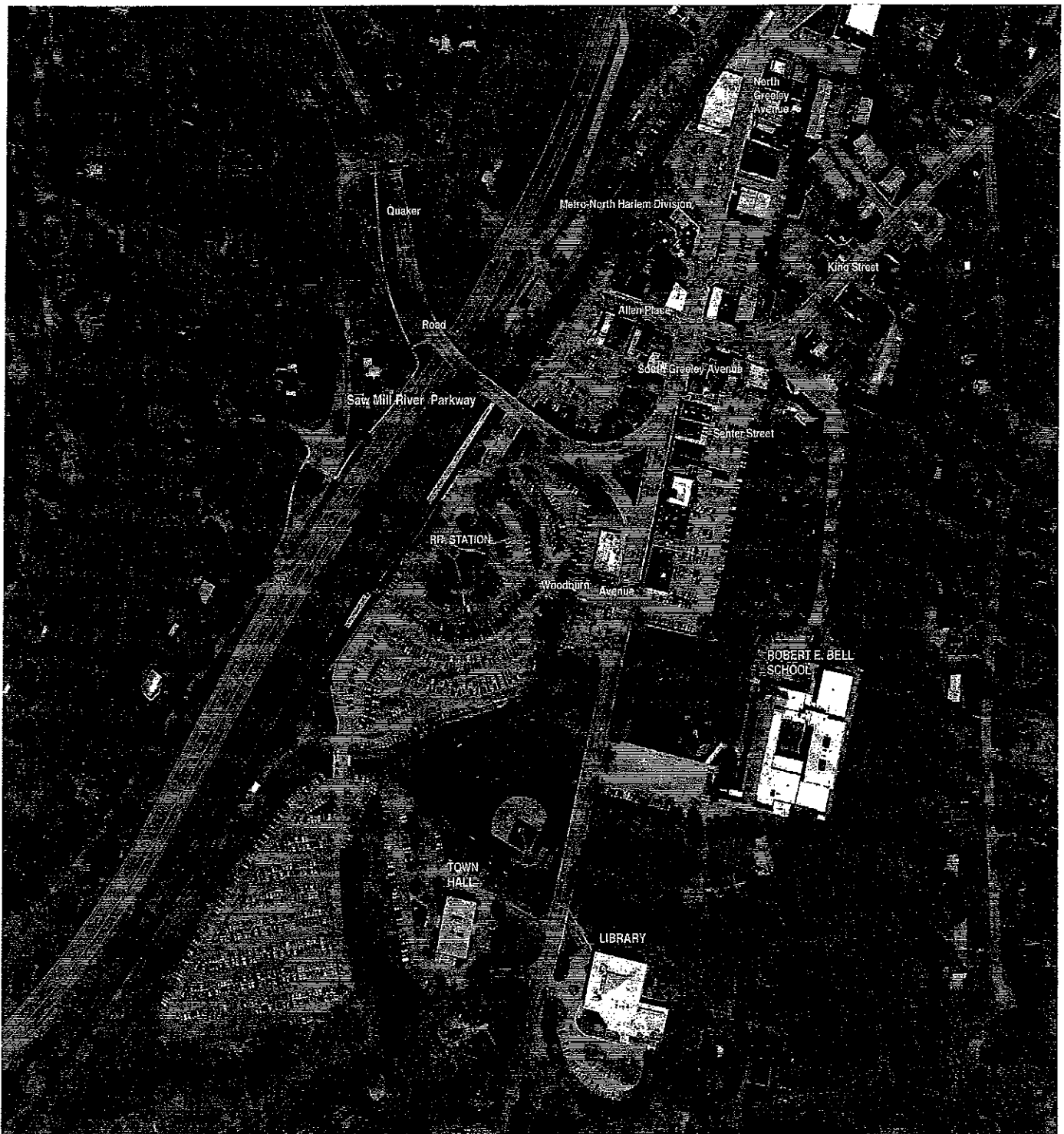


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PROJECT SCOPING REPORT

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Aerial Location Map
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APPENDIX A
Location Maps
Alternative No. 3 – Bridge Replacement

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VI. Project Coordination

A Public Information Meeting, with an open house or presentation format, will be held by the Town of New Castle to inform the public of the project and elicit comments on the feasible alternatives.

Coordinating Agencies:

Town of New Castle
Westchester County Department of Public Works
Metropolitan Transportation Authority (Metro-North Railroad)
New York State Department of Environmental Conservation
New York State Office of Parks, Recreation, and Historic Preservation
Federal Highway Administration

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the SHPO (to be forwarded to the State Archives) and one copy to a suitable local repository.

E. Coordination

An Adverse Effect determination was made by the NYSDOT and documented in a Finding Documentation report dated December 2, 2005. SHPO concurred with the finding in a letter dated December 15, 2005. The ACHP notified FHWA on February 9, 2006 that their participation in consultation to resolve the Adverse Effect was not needed after reviewing the Finding Documentation Report. The MOA amongst the FHWA, SHPO and NYSDOT was prepared and agreed upon on September 21, 2006.

F. Determination:

Based on the information in this evaluation, the following determinations have been made:

- 1) The project meets the applicability criteria of the Programmatic Section 4(f) for Historic Bridges.
- 2) All of the alternatives described above have been fully evaluated.
- 3) Based on the findings in the Programmatic Section 4(f) as documented in this evaluation, there are no feasible and prudent alternatives to the use of the historic bridge.
- 4) The proposed project will comply with the Measures to Minimize Harm section of the Programmatic Section 4(f).
- 5) The measures to minimize harm are hereby assured to be implemented with the construction of this project.
- 6) This evaluation will document that the Programmatic Section 4(f) Evaluation applies to this project.

Date

FHWA Division Administrator

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3. Bridge Rehabilitation Alternative

A bridge rehabilitation alternative has been studied in detail. The repairs required to rehabilitate the structure would be difficult and expensive to perform while maintaining the character of the historic bridge.

During construction, two-way traffic will need to be maintained at all times. The existing bridge section is not wide enough to accommodate two-way traffic without modifying and widening the existing structure. These modifications to the existing bridge would have a significant adverse effect on the character of the existing historic bridge.

Estimates show that the rehabilitation alternative would cost approximately \$3.5 million compared to the \$5.0 million required to reconstruct the entire structure. Rehabilitation would be cost prohibitive as it would approach the replacement costs and still leave a high potential for future structural problems.

Based on detailed traffic studies of the highway system in the project area, an additional lane is needed across the bridge for a future eastbound right turn lane onto South Greeley Avenue. The existing bridge section has one through lane in each direction, with no available space for the additional lane. The configuration of the existing structure does not lend itself to widening.

D. Measures to Minimize Harm:

The project includes all possible planning measures to minimize harm to the existing historic bridge. The following measures have been considered as a part of this project:

1. A Level III HABS/HAER recording will be performed prior to the initiation of the demolition of the bridge. A report will be developed from the recording material and report copies will be distributed to the New York State Archives in Albany, the SHPO and a suitable local repository.
2. BIN 1037350 has not been made available for alternative use due to the severely deteriorated state of the bridge and the extensive work that would be required to dismantle and move the bridge from its existing site.
3. A Memorandum of Understanding (MOA) has been developed for this project. The FHWA, by delegation to NYSDOT will ensure that the following measures are carried out:

The existing bridge shall be recorded equivalent to HABS Level II documentation standards (plans if available, large format negatives and 8"x10" prints in report form). Two (2) copies of this documentation shall be prepared in report form and they shall be distributed as follows: one copy to

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C. Findings

1. Do Nothing/Maintenance Alternative

The do nothing alternative has been studied. This alternative would leave BIN 1037350 as it is with only performing routine maintenance work or repair when the need arises.

The bridge which was constructed in 1930 has a current NYSDOT General recommendation rating of 3. A rating of 3 indicates "Serious deterioration or not functioning as originally designed". The concrete sidewalks and fascias are significantly spalled and cracked and the underside of the deck slab exhibits areas of transverse cracking. The primary steel members in the structure show moderate to heavy corrosion and have experienced 20%-25% section loss. The bridge is currently structurally deficient and needs repairs that are beyond the capabilities of maintenance forces.

The do nothing alternative does not correct any of the structural deficiencies which cause this bridge to be considered structurally deficient.

2. Build on New Location Without Using Historic Structure

This alternative would construct a bridge on a new alignment adjacent to BIN 1037350. This alternative was deemed not feasible due to the following reasons:

The new bridge on a parallel alignment would have adverse Social and Economic or Environmental effects on the adjacent properties. If the bridge is constructed to the north of the existing bridge, a large commercial building and associated municipal parking spaces would be displaced. If a new bridge is constructed to the south of the existing bridge, there would be adverse impacts to the Chappaqua Train Station and Depot Plaza which is listed on the National Register of Historic Places.

Due to the proximity of the adjacent bridge over the Saw Mill River Parkway, there would be very large cost implications associated with construction a new bridge on a parallel alignment. The new alignment would require that the Saw Mill River Parkway Bridge also be relocated to provide standard horizontal and vertical alignments on NY Route 120.

For these reasons, it is not feasible to construct a new bridge in a new location.

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V. Evaluation and Comparison of Alternatives [Section 4 (f)]

Federal Highway Administration (FHWA) PROGRAMMATIC SECTION 4(F) EVALUATION

New York State Department of Transportation (NYSDOT) - PIN: 8026.08
State Historic Preservation Office (SHPO) Project Review Number: 05PRO5945

ROUTE 120 HAMLET OF CHAPPAQUA, TOWN OF NEW CASTLE, WESTCHESTER COUNTY

This evaluation sets forth the basis for a Programmatic Section 4(f) Determination for the replacement of BIN 1037350 over the Metro-North Railroad (MNRR) and Railroad Street in the Hamlet of Chappaqua in the Town of New Castle, Westchester County.

A. Applicability:

The programmatic Section 4(f) evaluation for the replacement of BIN 1037350 over MNRR is applicable for the following reasons:

- 1) The bridge will be replaced using Federal Funds;
- 2) The project will replace BIN 1037350, a historic bridge structure which is eligible for listing on the National Register of Historic Places;
- 3) BIN 1037350 is not a Historic Landmark;
- 4) Agreement among the FHWA, Advisory Council on Historic Preservation (ACHP), SHPO and NYSDOT has been reached through procedures pursuant to Section 106 of the NHPA .

B. Alternatives:

The following alternatives avoid the use of the historic bridge:

1. Do Nothing
2. Build a new structure at a different location without affecting the historic integrity of the old bridge, as determined by procedures implementing the NHPA. This alternative was considered.
3. Rehabilitate the historic bridge without affecting the historic integrity of the structure, as determined by procedures implementing the NHPA. This alternative was considered.

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erators based on field review and screening, and determined that it does not appear likely that contaminated materials will be encountered during construction. A Phase I Hazardous Waste/Contaminated Materials Assessment will not need to be completed.

(3) Lead Paint

Lead paint is present on BIN 1037350.

j. Construction Impacts

The probable impacts associated with the construction of a project of this scope include inert pollutants generated by construction vehicles (dust and other airborne particles), carbon monoxide and other motor vehicle generated pollutants, soil erosion and sediment, and construction related noise.

Pollutants generated by construction equipment would be temporary in duration, would occur only during the actual construction of the project and would not significantly impact the study areas air quality.

A site specific soil erosion and sediment control plan will not be required.

k. Anticipated Permits and Approvals

A Metro-North Railroad "access" permit will be required for construction.

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(2) Noise

The proposed project is not within a new location, significantly changes neither the horizontal (50% reduction in source-receptor distance) nor vertical (6 to 9 meters (18 to 30 feet) increase or decrease) alignment, nor increases the number of through traffic lanes. Therefore, as per 23 CFR, Part 772, the project does not require a noise study.

(3) Energy

The following conditions are associated with an increase or decrease in energy consumption:

- a. The generation of additional vehicle trips.
- b. An effect on land use development patterns.
- c. An increase or decrease in vehicle operation speeds/traffic flow.
- d. An increase or decrease in vehicle miles traveled by the vehicle flow.
- e. A change in the average vehicle occupancies.
- f. Trip diversion to another node.

The project is not anticipated to significantly change any existing conditions that would alter the current operating speeds or traffic flows, increase the number of vehicle trips generated, alter the average vehicle occupancies, or give opportunities for additional trip diversions to other nodes. Based on the energy criteria the project's energy consumption should remain constant.

i. Contaminated Materials

(1) Asbestos

A review of the bridge record plans and utilities did not reveal any asbestos containing material that would require special handling in accordance with Industrial Code Rule 56. An asbestos assessment was done for BIN 1037350 and BIN 1037360. No asbestos containing materials were identified for either bridge.

(2) Hazardous Waste

The project has been reviewed by the Regional Hazardous Waste Coordinator for the potential hazardous waste gen-

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e. Visual Resources

Any temporary, negative aesthetic impacts will be mitigated through final landscaping, re-vegetation and tree planting activities in coordination with the Town of New Castle. The finished project will be designed to provide pleasure and satisfaction in its use by the traveling public. Refer to Section III.C.m for more details.

f. Parks

The project does not involve lands from public parks, recreational areas, wildlife, and waterfowl refuges.

Coordination with the Adirondack Park Agency is not required since the project is not located within the Adirondack Park.

g. Farmland Assessment

The proposed project is not located in any Westchester County Agricultural District. In addition, there are no federally identified farmland soils of statewide importance within the limits of the project.

Therefore, the proposed project will not affect any federal or state protected farmland.

h. Air, Noise, Energy

(1) Air

The proposed project is located in Westchester County, which is in non-attainment for carbon monoxide, particulates, and ozone. Therefore, since Westchester County is not in conformance with the Federal Clean Air Act Amendments of 1990 (CAAA90), this project is subject to regional conformity procedures.

The Level of Service (LOS) for both the Estimated Time of Completion (ETC) and the future ETC+10 will be A/A for am/pm respectively; the LOS for the future ETC+20 will be B/B for the am/pm respectively. There are no sensitive receptors (schools, hospitals, retirement communities) within the vicinity of there project limits. For these reasons, this project will not pose an air quality threat for the ETC, and the future ETC+10 and ETC+20.

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Heritage GIS database revealed that there are no known occurrences of rare and endangered species within 0.8 km (0.5 miles) of the project site.

The U. S. Fish and Wildlife Service has stated that "Except for occasional transient individuals, no federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the respective project impact areas. In addition, no habitat in the respective project impact areas is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended' 16 U.S.C. 1531 et seq.). Therefore no Biological Assessment or further Section 7 consultation under the Endangered Species Act is required with the U. S. Fish and Wildlife Service (USF&WL)."

See **Appendix G** for related correspondence.

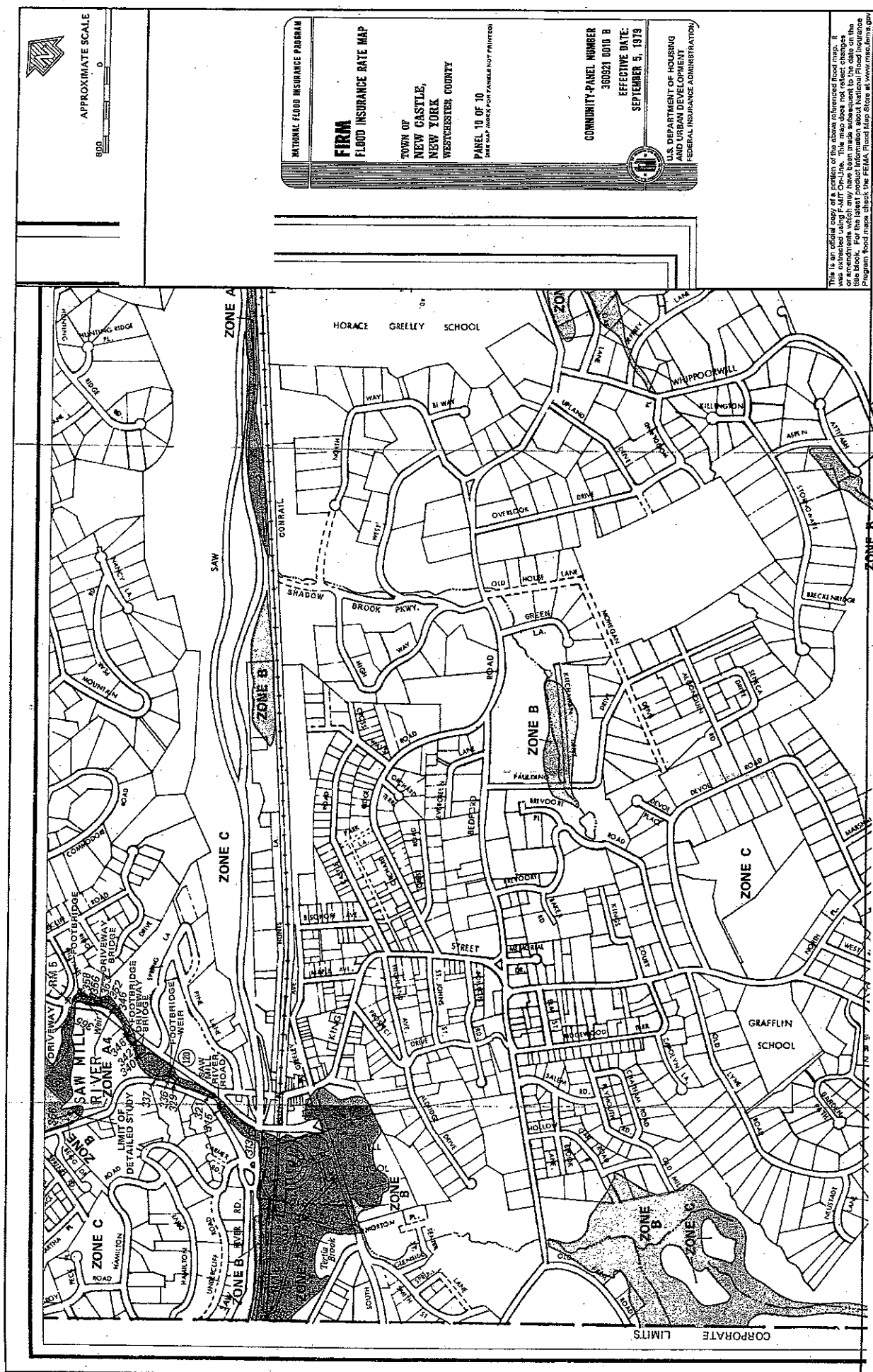
d. Historical and Cultural Resources

A Phase I Archaeological and Architectural Survey (Cultural Resource Survey) was completed for the intersection of Route 120 and Hunts Lane. The results of the archaeological portion of the survey identified that no structures or properties at the intersection that are of historic or cultural significance. However, a consultation with New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) indicated BIN 1037350 is eligible for inclusion in the National Register of Historic Places. Additionally, the adjacent Chappaqua Train Station and Depot Plaza is also listed on the National Register of Historic Places.

A Finding Documentation report was prepared by the Regional Cultural Resource Coordinator and submitted to New York Division of the Federal Highway Administration (FHWA) and New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) on December 2, 2005. The OPRHP and FHWA concurred with NYSDOT adverse effect determination. The Advisory Council on Historic preservation (ACHP) notified FHWA on February 6, 2006 that their participation in consultation to resolve the adverse effect was not needed after reviewing the Finding Documentation Report.

A Memorandum of Agreement was developed in consultation with the State Historic Preservation Officer and signed by OPRHP, NYSDOT and FHWA on September 21, 2006.

See **Appendix G** for the related correspondence.



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(6) Storm Water Discharge

This project will disturb less than 4,047 square meters (1.0 acres) of soil and therefore a Stormwater Pollution Discharge Elimination System (SPDES) Phase II permit will not be required.

(7) Floodplains

The project is located within a designated floodplain (Zone AZ). See Flood Zone Map, Figure IV-1.

In accordance with the provisions of Executive Order 11988, Flood Plain Management, as implemented in the Federal Aid Policy Guide 23 CRF 650, sub-part A, Location and Hydraulic Design of Encroachments on Flood Plains and 6NYCRR 502 Flood Plain Management Criteria for State Projects, this action has considered and evaluated the practicability of alternatives to any significant encroachments, or any support of incompatible flood plain development. As a result of this evaluation, it is concluded that (1) a significant encroachment does not exist, (2) there is no significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles, (3) there is no significant risk and (4) there are no significant impacts on natural and beneficial flood plain values.

b. Water Source

The project is not located within a New York State designated Principal or Primary aquifer. There are no private drinking wells located within of the project area.

c. General Ecology and Wildlife

The project area has been reviewed through the New York State Department of Environmental Conservation (NYSDEC) Wildlife Resources Center, Natural Heritage Program, and Geographical Information System (GIS) database for element occurrences of rare, threatened, and endangered plants and animals, and rare or significant ecological communities. An initial finding, offered by the NHP on August 8, 2000, revealed no records or known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the vicinity of the project site. Also, a May 2006 review of the New York Natural

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districts. The proposed project will not have any long-term, adverse affects on the local economy as noted earlier. The proposed project's likely positive impacts are described in Section IV.B.2.a.

d. Relocation Impacts

No residential or business relocations are anticipated with the proposed project.

3. Environmental Consequences

Environmental issues that have been identified are discussed below. Additional information can be found in the Appendices as noted.

a. Surface Waters/Wetlands

(1) Surface Waters

The Saw Mill River is present within the project limits. It runs parallel to Route 120 (Quaker Street) west of the MNRR. No impacts to the Saw Mill River are expected.

(2) Wetlands

Wetlands have been identified to the north of Quaker Street (Route 120) just west of the Saw Mill River parkway. The wetlands have been delineated (May 2005) and the delineation has been field located. It is anticipated that the wetlands will not be impacted. No State regulated wetlands were identified within 30m of the project area.

(3) Coastal Zone

The project is not located within the Coastal Zone Area of New York State. Therefore, a consistency assessment is not required.

(4) Navigable Waters

There are no navigable waters within the project limits.

(5) Wild, Scenic and Recreational Rivers

There are no wild, scenic or recreational rivers within the project limits.

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g. Impacts on Highway Safety, Traffic Safety and Overall Public Safety and Health

The overall pedestrian and vehicular safety within the project area will be improved by reconstruction of BIN 1037350, N.Y. Route 120, and the Douglas Road/Hunts Lane intersection.

h. General Social Groups Benefited and Harmed

(1) Effects on Elderly & Disabled Persons – The proposed project will not have a disproportionately high and adverse human health and environmental effect on elderly or disabled persons. Within the project limits, pedestrian facilities will be designed in accordance with requirements that are consistent with the Americans with Disabilities Act.

(2) Effects on Low Income, Minority, and Ethnic Groups – The proposed project will not have a disproportionately high and adverse human health and environmental effect on minority or low-income populations.

2. Economic Consequences

a. Impacts on Regional and Local Economies

The proposed project will not have any long-term, adverse affects on the regional or local economies.

As described in Chapter III, Alternative No. 3 will reconstruct the Bridge over the MNRR, which will improve development opportunities and provide a pedestrian friendly environment. Along with the proposed landscaping development (see Section III.C.2.m), this project should have a very positive affect on local development and property values. Increased development opportunities could lead to additional employment, retail sales, and tax revenues.

b. Impacts on Existing Highway-related Businesses

This project will have no long-term, adverse effect on any highway-related businesses.

c. Impacts on Established Business Districts

The adjacent South Greeley Avenue is considered the “Main Street” of Chappaqua and has the land use typical of most business

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Nearly 91.5% of the population is White, 5.6% is Asian, 1.4% is African American or Black, and 1.5% is listed as other or two or more races.

This project will not have any long-term, adverse affects on any residents of the surrounding population that utilize N.Y. Route 120.

b. Local Planning

This project is being coordinated with local planning efforts, specifically the Hamlet of Chappaqua Comprehensive Plan. The Final Hamlet of Chappaqua Comprehensive Plan was submitted to the Town of New Castle in March 2003 but has not been formally adopted by the Town Board.

c. Community Cohesion

The proposed project will improve the cohesion of the businesses in the Hamlet through the use of consistent and uniform building materials, landscaping treatments and pedestrian amenities used. The proposed project will not isolate any of the population in the surrounding community.

No relocations are necessary as part of this proposed project.

d. Changes in Travel Patterns or Accessibility

No changes are expected in travel patterns as a result of this project. Accessibility of pedestrians and bicyclists is expected to be improved due improved sidewalks and crosswalks.

e. Impacts on School Districts, Recreation Areas, Places of Worship and Businesses

No long-term, negative impacts are expected to any of these institutions as a result of the proposed project. Short-term impacts, during the construction phases, will be coordinated with these institutions as necessary.

f. Impacts on Police, Fire Protection and Ambulance Access

No long-term, negative impacts are expected to any of these emergency services as a result of this project. Short-term impacts, during the construction phases, will be coordinated with emergency services as necessary.

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- (i) rare, endangered or threatened species formally designated as such pursuant to Federal law; and
- (j) any area officially designated as a critical environmental area pursuant to 6 NYCRR Part 617; and
- (7) the requirement for an indirect air source quality permit, pursuant to 6 NYCRR Part 203.

2. National Environmental Protection Act

This project is being progressed as a NEPA Class II project. The NEPA checklist has been reviewed and a preliminary determination made that this project meets the requirements of a Categorical Exclusion with Documentation in accordance with FHWA regulations in 23 CFR 771.117 (a) and (d). The "D List" action involved is (1) modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders or adding auxiliary lanes and (3) bridge rehabilitation, reconstruction or replacement, or the construction of grade separation to replace existing at-grade railroad crossings.

The completed NEPA Checklist with additional information to document the Categorical Exclusion determination is included in **Appendix F**.

On November 1, 2006, the Federal Highway Administration concurred with the assessment that the project meets the conditions and criteria of a Categorical Exclusion. (See correspondence in **Appendix G**)

B. Social, Economic and Environmental Consequences

1. Social Consequences

a. Affected Population

The project area is adjacent to many commercial establishments along South Greeley Avenue and is considered the "Main Street" of Chappaqua. Also adjacent to the project area, just to the south of BIN 1037350, is the Chappaqua Railroad Station. The Town Hall, Library, and Robert E. Bell School, as well as several recreational ball fields, are located just to the south of the project on South Greeley Avenue.

The Year 2000 Census indicates that the population of the Town of New Castle is nearly 17,500 (51% female and 49% male) and contains nearly 5,800 households. Sixty-eight (68%) of the population is 18 years and over and the median age is 39.3 years old. The median household income is \$159,691.

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IV. Social, Economic, and Environmental Considerations

A. Introduction

The purpose of this chapter is to (1) identify the social, economic and environmental consequences of the feasible alternatives for consideration in selecting the preferred alternative; (2) identify feasible avoidance or mitigation measures where necessary; (3) satisfy the applicable social, economic and environmental laws; and (4) identify all permits and approvals needed for each feasible alternative.

1. State Environmental Quality Review (SEQR) Act

The proposed project has been reviewed in accordance with Title 17 of the New York Codes, Rules, and Regulations, Part 15 and meets most of the criteria established for a Type II action (17NYCRR 15.14(d) and 17NYCRR 15.14(e)(37)) under the SEQR Act. The action is a bridge replacement project including minor highway rehabilitation and involves minimal right-of-way acquisition.

The project does not include or result in:

- (1) the acquisition of any occupied dwelling units or principal structures of business;
- (2) significant changes in passenger or vehicle traffic volume, vehicle mix, local travel patterns or access (other than changes that would occur without the project);
- (3) more than minor social, economic or environmental effects upon occupied dwelling units, businesses, abutting properties or other established human activities;
- (4) significant inconsistency with current plans or goals that have been adopted by local governmental bodies;
- (5) physical alternation of more than 1.0 ha (2.5 acres) of publicly owned or operated parkland, recreation area or designated open space;
- (6) more than minor alteration of, or adverse effect upon, any property, protected area, or natural or man-made resource of national, State or local significance, including but not limited to:
 - (a) freshwater or tidal wetlands and associated areas;
 - (b) floodplain areas;
 - (c) prime or unique agricultural land;
 - (d) agricultural districts so designated pursuant to article 25, section 203, when more than one acre of such district may be affected;
 - (e) water resources, including lakes, reservoirs, rivers, streams;
 - (f) water supply sources;
 - (g) designated wild, scenic, and recreational rivers;
 - (h) unique ecological, natural wooded or scenic areas;

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2. Schedule

Design Approval Date:	November 2006
PS&E:	April 2007
Letting Date:	July 2007
Contract Award:	August 2007
Begin Construction:	September 2007
End Construction:	September 2009

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posed facilities for any of the State, County or local roadways within the project corridor. Therefore, it is assumed, that bicycle usage will not be significant. Bicyclists will continue to share the roadway in accordance with current traffic law.

p. **Lighting**

The existing historic type period lighting on the existing bridge will be removed, reconditioned, and reinstalled on the new bridge.

The provisions for lighting under the feasible alternative are consistent with the streetscape plan, as described in the Alternatives section of "Land Use and Design Opportunities", in the Hamlet of Chappaqua Comprehensive Plan (March 2003).

q. **Parking**

The amount of available parking in the Hamlet area will not be impacted by the proposed alternative. There will be a temporary loss of parking during certain stages of construction.

D. **Project Cost and Schedule**

1. **Costs**

This project will be funded with Federal HBRR and State Funds.

Permanent Features	
Highway	\$1,000,000
Bridge 1037350	\$5,700,000
Bridge 1037360	\$150,000
Construction Cost	\$6,850,000
Railroad Force Account	\$200,000
ROW Incidentals	\$17,000
ROW Acquisitions	\$56,500
Engineering	
Preliminary	\$100,000
Final	\$450,000
Construction Inspection	\$600,000

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l. Right-of-Way

The proposed alternative will require several Permanent Easements (PE) and several Temporary Easements (TE). It is estimated that the total right-of-way acquisition costs will be \$17,000. See Appendix I for a list of proposed easements.

m. Landscaping Development

All disturbed areas would be re-established with vegetation to permanently stabilize the soil. Trees that are dead, dying or in conflict with construction or within the established clear zone will be removed. Replacement plantings will be included in the project to replace vegetation lost through construction activities, for erosion control, and/or for habitat enhancement.

On BIN 1037350, the stone facing will be removed to facilitate the reconstruction. Any stone that can be salvaged will be used within the project area or provided to the Town for their use. The actual finish of the new bridge will be determined during final design.

The finished project will be designed sensitively, considering the project context and the Hamlet of Chappaqua Comprehensive Plan.

n. Provisions for Pedestrians, including Persons with Disabilities

Within the project limits and the Hamlet, where pedestrian use is moderate to heavy, facilities will be designed in accordance with requirements that are consistent with the Americans with Disabilities Act. Sidewalk with a minimum width of 1.525 m (5 ft.) will be incorporated on all project roadways.

The Town of New Castle is currently planning to install sidewalks along the south side of Route 120 at the western limits of this project.

The existing stairways which connect NY Route 120 (Quaker Street) and Railroad Street (Allen Place), located on the bridge between Span 1 and Span 2, will be replaced and upgraded to meet ADA standards.

o. Provisions for Bicycling

NY Route 120 and the adjacent local streets are not a part of any statewide or local bicycle route. The Mid-Hudson South Region Bicycle/Pedestrian Master Plan, June 2001 does not include pro-

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to the west. During the second stage, 9.4 m (30.8 ft.) of new bridge is constructed on the north side, including the sidewalk and railing. The closure pour would be completed at the end of this stage. Traffic would then be diverted slightly on the new bridge to allow the southern sidewalk work to be completed.

See the typical sections and staging plans in **Appendix C**.

i. **Soils and Foundations**

Soil borings for the existing bridge are available. New borings are being progressed to aid in the proposed design.

j. **Utilities**

Section II.C.1.s includes a list of the utilities that are located within the project limits.

It is anticipated that there would be limited relocations of overhead and underground electric, telephone, and cable lines, as well as related poles.

It is anticipated that due to the reconstruction of the intersections and sidewalk work that any existing gas valves, water valves, and hydrants that are to remain will be adjusted and/or relocated.

k. **Railroads**

The widening of BIN 1037350 will increase the amount of platform that would be permanently covered. The preferred alternative will not require modifications to the tracks or other railroad facilities in the area.

The minimum standard vertical clearance over a railroad is 6.71m, however Metro-North Railroad has indicated that they would accept a minimum vertical clearance of 5.89 m (19 ft. – 4 in.). See correspondence in Appendix G. A minimum horizontal clearance of 4.99 m (16 ft. – 4½ in.) from the centerline of tracks must be maintained. The proposed vertical clearance is 6.02 m and the proposed horizontal clearance is 6.2 m.

A railroad force account agreement with Metro-North Railroad will be necessary.

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f. Drainage

Existing drainage patterns would not be significantly altered. The existing drainage system at the NY Route 120 (Quaker Street) and Hunts Place/Douglas Road intersection would remain in place.

g. Maintenance Responsibility

Upon completion of the project, ownership and maintenance responsibility of NY Route 120 will continue to be with the New York State Department of Transportation. The Route 120 bridge over the MNRR and railroad will have shared maintenance responsibility between the NYSDOT and the MNRR. The stairways will be maintained by the Town of New Castle. The Route 120 bridge over the SMRP will be maintained entirely by the NYSDOT.

The various utilities within the project limits will continue to be maintained by their respective owners.

h. Maintenance and Protection of Traffic

Under the feasible alternative, traffic would be maintained during construction in accordance with current standards and construction practices. Access would be maintained to all properties within the project limits during construction.

Pedestrian traffic will be maintained by constructing an approximately 105 m (345 ft.) long temporary, fully-enclosed pedestrian bridge parallel and to the north of the existing structure with approximately 25 m (80 ft.) of temporary approaches. Pedestrians and bicyclists would use the temporary structure for the duration of the bridge reconstruction. Pedestrian access from the temporary structure to Railroad Street (Allen Place) will be made available in a temporary stairway. See Appendix B, Dwg. Nos. PL-02 and PL-03.

Under the feasible alternative, the first stage of construction, the sidewalk on the north side would be removed so that two-way traffic would be maintained on 3.30 m (10.8 ft.) wide travel lanes on the existing bridge while 8.80 m (28.9 ft.), nearly 50%, of the new bridge is constructed on the south side.

During the second stage of construction, two-way traffic would be maintained on 3.65 m (12.0 ft.) travel lanes on the newly constructed bridge section. Stage II would require a 6.7 m (21.9 ft.) horizontal shift of traffic and will have an impact on BIN 1037360

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The pavement within the project limits will be milled and resurfaced, except for the pavement immediately adjacent to the bridge, which will be reconstructed with a full depth section.

d. Structures

Alternative No. 3 would involve the construction of a new bridge as previously described. The bridge curb to curb width would transition to the existing eastern approach width of 13.8 m (45.25 ft.).

The following bridge geometrics will apply for BIN 1037350, NY Route 120 (Quaker Street) over Metro-North Railroad and Railroad Street (Allen Place):

Travel lanes:	2 @ 3.6 m (12 ft.)
Future travel lane:	1 @ 3.6 m (12 ft.)
Curb offset:	1 @ 1.2 m (4 ft.) -Left
	1 @ 1.6 m (5 ft.-3 in.) - Right
Sidewalk:	2 @ 1.7 m (5 ft. - 7 in.)
Provision for bridge parapet:	2 @ 0.6 m (2.0 ft.)
Total out-to-out width:	18.200 m (59.7 ft.)
Span 1, 2:	TBD
Rise 1, 2:	TBD
Skew:	0 degrees

For the purposes of the preliminary design studies and estimates, a two-span continuous steel, multi-girder superstructure with a composite deck has been assumed. The substructure has been assumed to be a reinforced concrete abutment supported by piles. The exact type of superstructure and substructure will be determined during the final design phase. The bridge would be designed for MS-23 loading. The new bridge will be wider than the existing to accommodate a future turn lane on Route 120. This will also serve to main two lanes of traffic during each stage of construction.

Under the feasible alternative, work anticipated for BIN 1037360 over the Saw Mill River Parkway would include rehabilitation of the existing curbs and sidewalks as well as replacement or resurfacing of the asphalt wearing surface.

e. Hydraulics

The proposed resurfacing would not affect hydraulics within or adjacent to the project area since no water bodies will be impacted. The concrete box culvert under Douglas Road will not be altered.

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significant adjustment of the horizontal alignment at a significant cost to remove the broken back curve.

b. Traffic Forecasts, Level of Service and Safety Considerations

(1) Traffic Forecasts

The proposed alternative would not affect traffic forecasts within the project limits. Therefore build traffic volumes will be the same as no-build, forecasted volumes. See Table II-4 in Section II.C.1.h. (2).

(2) Level of Service

The proposed alternative will not affect LOS forecasts within the project limits. See Table II-5 in Section II.C.1.i.

(3) Safety Considerations

Safety of the traveling public would be improved by replacing the deteriorated and deficient bridge and improving geometrics of Route 120.

There are some accident countermeasures that are recommended to help reduce the current accident rates. New signage and striping will be installed that meet current standards. Also, the new pavement surface will have appropriate superelevation and improved friction to reduce the potential for accidents.

The clear zone provides a sufficient area beyond the edge of the traveled way for recovery of errant vehicles. The proposed design clear zone will be 2.9 m (9.5 ft.) at BIN 1037350 and within the project limits, which is typically defined by the guide railing located at the back of sidewalk. The clear zone at BIN 1037360 will be 2.42 m (8 ft). See Table III-1 in Section III. A/

All signs within the project limits will be replaced and guide railing will be replaced as necessary.

c. Pavement

The project is not covered by the NYSDOT's "Project-Level Pavement Selection Process" since the total length of the pavement reconstruction involved would be less than 1.6 km (1 mi.).

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- (f) The 8.5% grade (8.0% is the maximum standard) on Route 120 to the east of the MNRR Bridge would be retained in this alternative.
- (g) The vertical clearance over the Metro-North Railroad is proposed to be 6.02m which is the same as the existing clearance. The minimum vertical clearance criteria are 6.71 m.
- (h) The superelevation of the existing curve # 1 through the Route 120/Hunts Place intersection will not meet the standard criteria since it is considered an intersection curve and the grading must be blended to allow vehicles to travel smoothly through the intersection.
- (i) The superelevation of the existing curve # 4 at the eastern project limits will not meet the standard criteria since it is a transition curve between the northbound and southbound turn movements onto South Greeley Avenue and the grading must be blended to provide smooth vehicular travel.

See Appendix H for Non-Standard Feature Justification Reports.

(2) Non-Conforming Features

There will be 3 non-conforming features once the project is completed.

- (a) The reverse curve between curve # 2 and curve # 3 will be retained. This series of curves does not contribute to any accident pattern and it is not feasible to adjust the horizontal alignment to remove the reverse curve.
- (b) The broken back curve between curve # 1 and curve # 2 will remain. This series of curves does not contribute to any accident pattern and it would be costly to realign the intersection to avoid the broken back curve.
- (c) The broken back curve between curve # 3 and curve # 4 will remain. This series of curves does not contribute to any accident pattern and it would require a

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See **Appendix B** for Overall Project Plans Profile and Typical Sections of Alternative No. 3B.

2. Engineering Considerations of Feasible Alternatives

a. Special Geometric Features

Alternative No. 3B meets or exceeds the design criteria established for the project with the following exceptions:

(1) Non-standard Features

- (a) The horizontal curve located at the western project limits through the Route 120/Hunts Place intersection has a radius of 100m and is considered non-standard. This is considered an intersection curve and would be retained under Alternative No. 3.
- (b) The horizontal curve located immediately west of BIN 1037350 (on BIN 1037360) has a proposed radius of 132 m and is considered non-standard (minimum standard is 135m) This curve would be retained under Alternative No. 3.
- (c) The horizontal curve located at the eastern project limits has a proposed radius of 63 m and is considered non-standard. This curve continues into the intersection outside of the project limits. This curve would be retained under Alternative No. 3.
- (d) The proposed stopping sight distance for the crest curve over the Metro-North Railroad is approximately 56 m (minimum standard is 85m.) and would be retained under Alternative No. 3 since it does not contribute to any accident pattern and would be very costly to improve.
- (e) The sag curve just east of the intersection of NY Route 120 (Quaker Street) and Hunts Lane. This intersection has a headlight stopping sight distance of 63 m (minimum standard is 85 m). This sag curve would be retained under Alternative No. 3 since it does not contribute to any accident pattern and would be very costly to improve.

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commodate eastbound traffic on Route 120. A temporary, fully-enclosed pedestrian bridge would be located north of BIN 1037350. The pedestrian bridge would temporarily eliminate two parking spaces in the Allen Place municipal parking lot. See Appendix B, Dwg. No. PL-02 and PL-03.

The total estimated cost for this sub-alternative, including the temporary pedestrian bridge, is \$6.85 million.

The following were considered for the maintenance and protection of traffic during construction of BIN 1037350, NY Route 120 (Quaker Street) over Metro-North Railroad and Railroad Street (Allen Place) but rejected:

Sub-Alternative No. 3C On-Site Diversion

This sub-alternative would entail the use of a temporary bridge with necessary approach work and ROW acquisition. Given the physical restraints at the bridge location and its proximity to BIN 1037360, the railroad platform, and the Hamlet of Chappaqua, this alternative was not considered feasible and was rejected.

Sub-Alternative No. 3D Off-Site Detour

This sub-alternative would involve closing NY Route 120 at the bridge location and detouring traffic utilizing alternate routes. There are no off-site roadways that would be a reasonable detour route, therefore this alternative was not considered feasible and was rejected.

Alternative No. 3, including Sub-Alternative 3B, is considered feasible and will be studied further.

C. Feasible Alternatives

The bridge replacement alternative with pedestrian access on a temporary pedestrian bridge (Alternative 3B) is the selected alternative and is being progressed.

1. Description of Feasible Alternatives

After careful review of all the alternatives presented, it has been determined that Alternative No. 3B, Bridge Replacement with Temporary Pedestrian Bridge, is the most feasible alternative that meets the project objectives and will satisfy the design criteria (except as noted in Section III.C.2.a(1)).

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so that it meets current NYSDOT design standards, unless noted in Section III.C.2.a (1).

Two staging alternatives for the bridge replacement, along with associated maintenance and protection of traffic (M&PT) implications, were investigated:

Sub-Alternative No. 3A Staged Construction with Pedestrian Access on the Bridge during Construction

Sub-Alternative No. 3B Staged Construction with Pedestrian Access on a Temporary Pedestrian Bridge during Construction

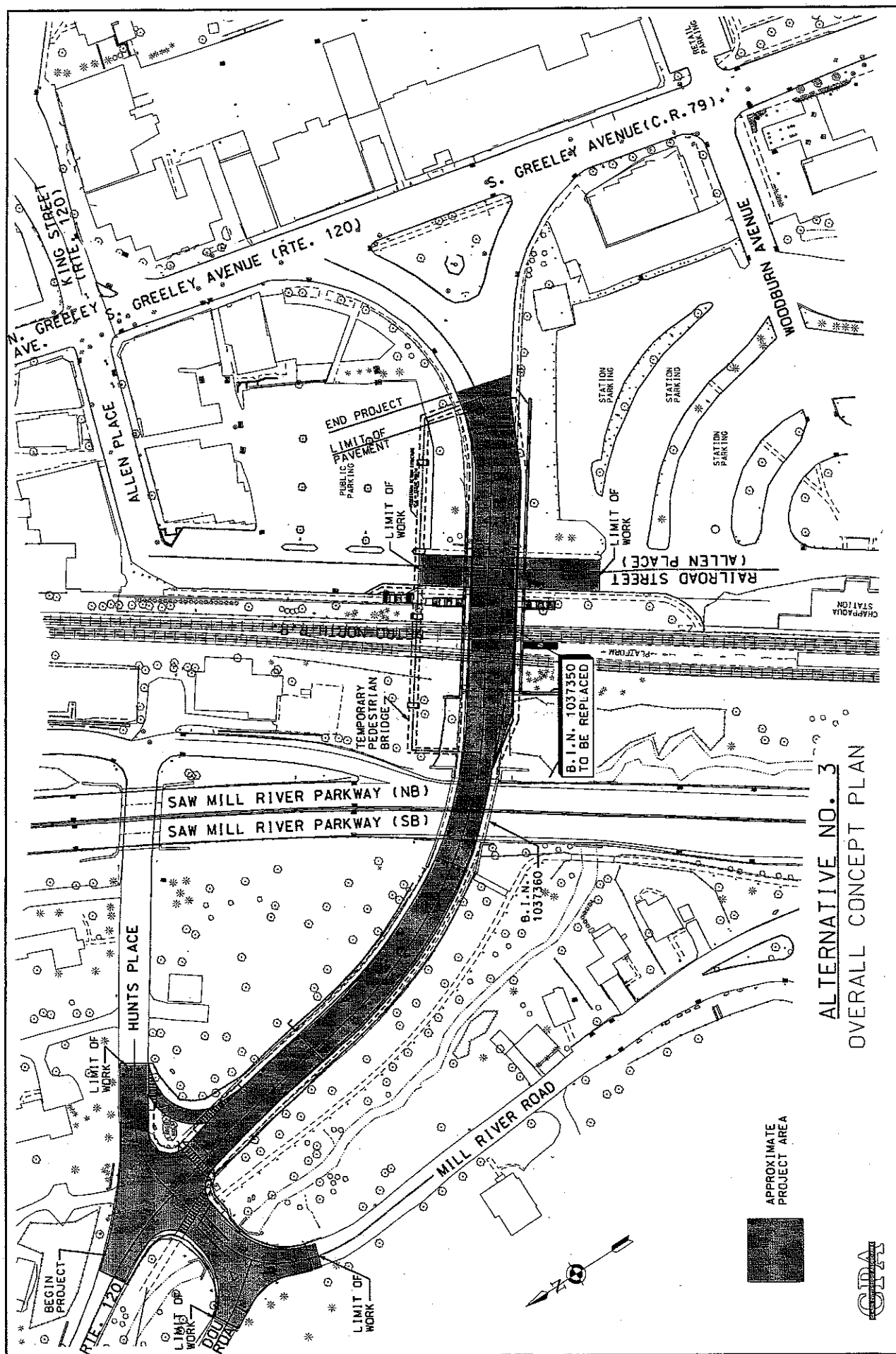
Sub-Alternative No. 3A Staged Construction with Pedestrian Access on the Bridge during Construction

This sub-alternative would provide a new bridge and highway work as previously described under Alternative No. 3 on an adjacent bridge alignment. The proposed centerline of the bridge would be located 1.2 m (4 ft.) south of the existing centerline, which would shift the horizontal alignment 0.6 m (2 ft.) to the north. This sub-alternative would require two closure pours and work on the "middle" lane while traffic was maintained on the "outside" lanes. This sub-alternative would require the bridge to be under construction for a longer period when compared with Alternative No. 3B.
The total estimated cost for this sub-alternative is \$ 6.85 million.

Alternative 3A was considered not feasible since it has three construction stages and there is no cost advantage over Alternate 3B.

Sub-Alternative No. 3B Staged Construction with Pedestrians Access on a Temporary Pedestrian Bridge during Construction

This sub-alternative would provide a new bridge and highway work as previously described under Alternative No. 3 on an adjacent bridge alignment. The proposed centerline of the bridge would be located 2.13 m (7 ft.) south of the existing centerline, which would shift the horizontal alignment 0.3 m (1 ft.) to the south. This sub-alternative would require one closure pour. This sub-alternative would require a 6.7 m (21.9 ft.) horizontal shift of traffic during construction. The shift will have an impact on BIN 1037360 to the west. A portion of sidewalk at the southeast corner of the structure will need to be removed during construction to ac-



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This alternative would involve the complete replacement of the two span structures (BIN 1037350) with a new two span structure in its present location on a parallel alignment. This alternative would provide a new bridge with an approximate 41.30 m (135.5 ft.) length, and an out-to-out width of 18.20 m (59.71 ft.). The structure would carry two 3.6 m (12 ft.) travel lanes, one 3.6 m (12 ft.) eastbound future turn lane, and a 1.2 m (4 ft.) curb offset on the left and 1.6 m (5.2 ft.) curb offset on the right. Sidewalk, at 1.700 m (5.6 ft.), and a 0.6 m (2 ft.) bridge parapet wall would also be carried in both directions.

Work is anticipated for BIN 1037360 over the Saw Mill River Parkway due to M&PT impacts caused by the staged construction of BIN 1037350. The existing pavement on BIN 1037360 would also be removed and a new water proofing membrane would be installed, with new pavement structure. The roadway and approach work to the west of the structure would include new curb, sidewalk and milling and resurfacing beginning approximately 30 m (100 ft.) west of the NY Route 120 (Quaker Street) and Hunts Place/Douglas Road intersection. The milling and resurfacing of Hunts Place and Douglas Road would be included as necessary. The only change in lane configuration would include a right hand "slip ramp" from Quaker Street westbound onto Hunts Place. This ramp was requested by the Town of New Castle and would be installed to facilitate the bus turning movement. The large rock located in the southeast corner of the Hunts Place/Quaker Street intersection has historic significance. This rock will be relocated slightly to the south to allow for adequate sight distance at the intersection.

The roadway and approach work to the east of the structure would match the existing roadway approximately 40 m from the east end of the MNRR Bridge. The existing "Y" configuration of Quaker Street and South Greeley Avenue would remain.

New signs, new or refurbished decorative lighting and rustic guide railing would also be included with the bridge replacement, as well as new signs, striping, and drainage.

This reference is for the Hunts Lane intersection. Missing is any reference to Greeley Ave. intersection

Staged construction would be used to maintain two travel lanes during the reconstruction of the bridge and highway. See Section II.C.2.h for further discussion regarding feasible maintenance and protection of traffic schemes.

Replacement of BIN 1037350 would meet project objectives, in that it would eliminate the structural deficiencies associated with the existing bridge and eliminate the capacity and safety deficiencies associated with the existing intersections. The project would be designed and constructed

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- Replacing deteriorated and missing rivets with high strength bolts;
- Widening of the existing substructure;
- Install new beams to provide the widened superstructure;
- Replace the stairways on both sides of the bridge;
- Repair the northeast wingwalls which show signs of outward movement;
- Removing blast protection on girders and diaphragms in span over Metro-North tracks. Cleaning and painting all structural steel;
- Resetting and/or repointing masonry on structural walls (wingwalls) and masonry facing (on sides of abutments and the pier);
- The proposed work will allow the structure to carry MS-18 (HS-20) loading;

In order to provide two lanes of traffic during construction a temporary pedestrian bridge and a wider proposed bridge section would be required. Widening of the substructure would require sheeting and stage construction, both of which increase construction time and cost. Due to the amount of rail traffic there would be limited windows of work time to remove the blast protection and clean and paint the girders. This would result in increased construction cost and time as well. Additional expense and difficulty is anticipated in providing the necessary environmental protections for removal of the lead based paint.

Additional work is also anticipated for BIN 1037360 over the Saw Mill River Parkway. This would consist of curb and sidewalk repairs, repointing of a portion of the parapet wall, and wearing surface and approach pavement replacement.

The estimated cost of the rehabilitation alternative is \$3,500,000 (bridge share only), nearly 65% of the replacement estimate. Therefore, based upon the above description and since this alternative does not meet all of the project objectives, it is concluded that the bridge should not be rehabilitated. Alternative No. 2 is not feasible and was removed from further consideration.

Alternative No. 3 - Bridge Replacement

See **Appendix B** for Typical Sections, Plans and Profiles of Alternative No. 3.

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Alternative No. 3 - Bridge Replacement

- Sub-Alternative No. 3A - (M&PT Option A)
- Sub-Alternative No. 3B - (M&PT Option B)
- Sub-Alternative No. 3C - (M&PT Option C)
- Sub-Alternative No. 3D - (M&PT Option D)

Alternative No. 1 - No Action/Maintenance

This alternative would leave the structure as it is, with only performing routine maintenance work or repair when the need arises. The bridge is structurally deficient and needs repairs that are beyond the capabilities of maintenance forces. This alternative is removed from further consideration because the identified objectives require a scope of work beyond general maintenance.

Alternative No. 2 - Bridge Rehabilitation

This alternative would include the major repairs necessary to reestablish the structural integrity of the BIN 1037350. Highway and intersection reconstruction work would be as described under Alternative No. 3.

The restorative efforts of such repairs are intended to extend the service life of the structure for at least another twenty years with only minor maintenance requirements. This alternative was evaluated in accordance with Section 19.2.2 of the Bridge Manual.

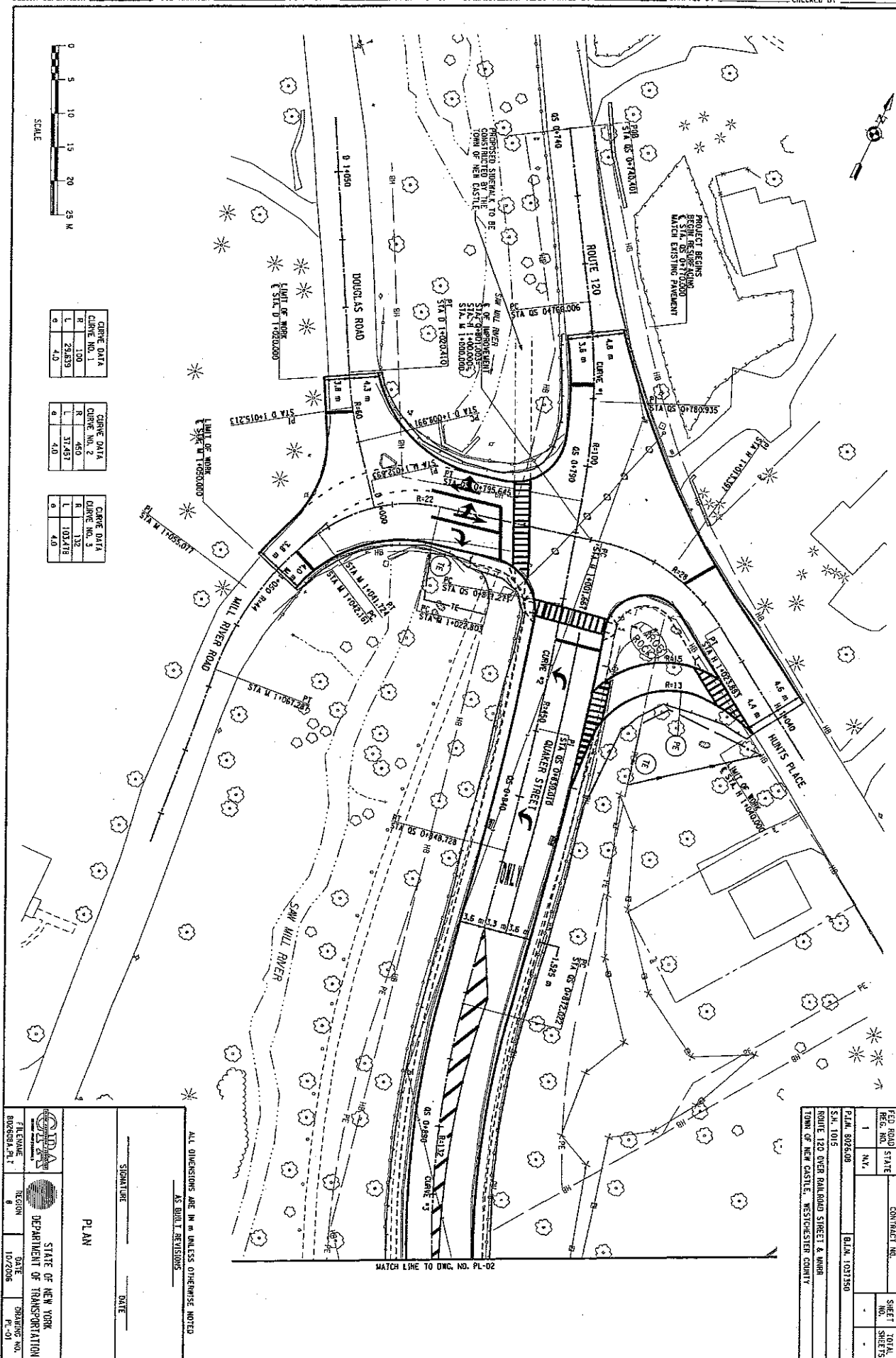
This alternative involves removal and replacement of the existing deck and joints, extensive rehabilitation of the superstructure, widening of the substructure to accommodate a wider superstructure, as well as concrete repair of the substructure. The existing horizontal and vertical alignments would be retained and ROW acquisitions would be required. The improvements include the following:

- Removing and replacing the existing deck and joints. A composite concrete bridge deck would be utilized to improve the load carrying capacity. The proposed deck would carry two 3.6 m travel lanes with 1.2 m shoulders, a 3.6 m turning lane and 1.525 m sidewalks on both sides of the bridge. ~~The bridge railing, approach railing and railing transitions would be replaced with those that meet current standards;~~
- Replacing deteriorated fascia beams in span over Railroad Street. Repairing other structural steel members which have only minor corrosion and section loss;

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SIGN SUPERVISOR _____ JOB MANAGER _____ DESIGNED BY _____ CHECKED BY _____ ESTIMATED BY _____ DRAFTED BY _____ CHECKED BY _____

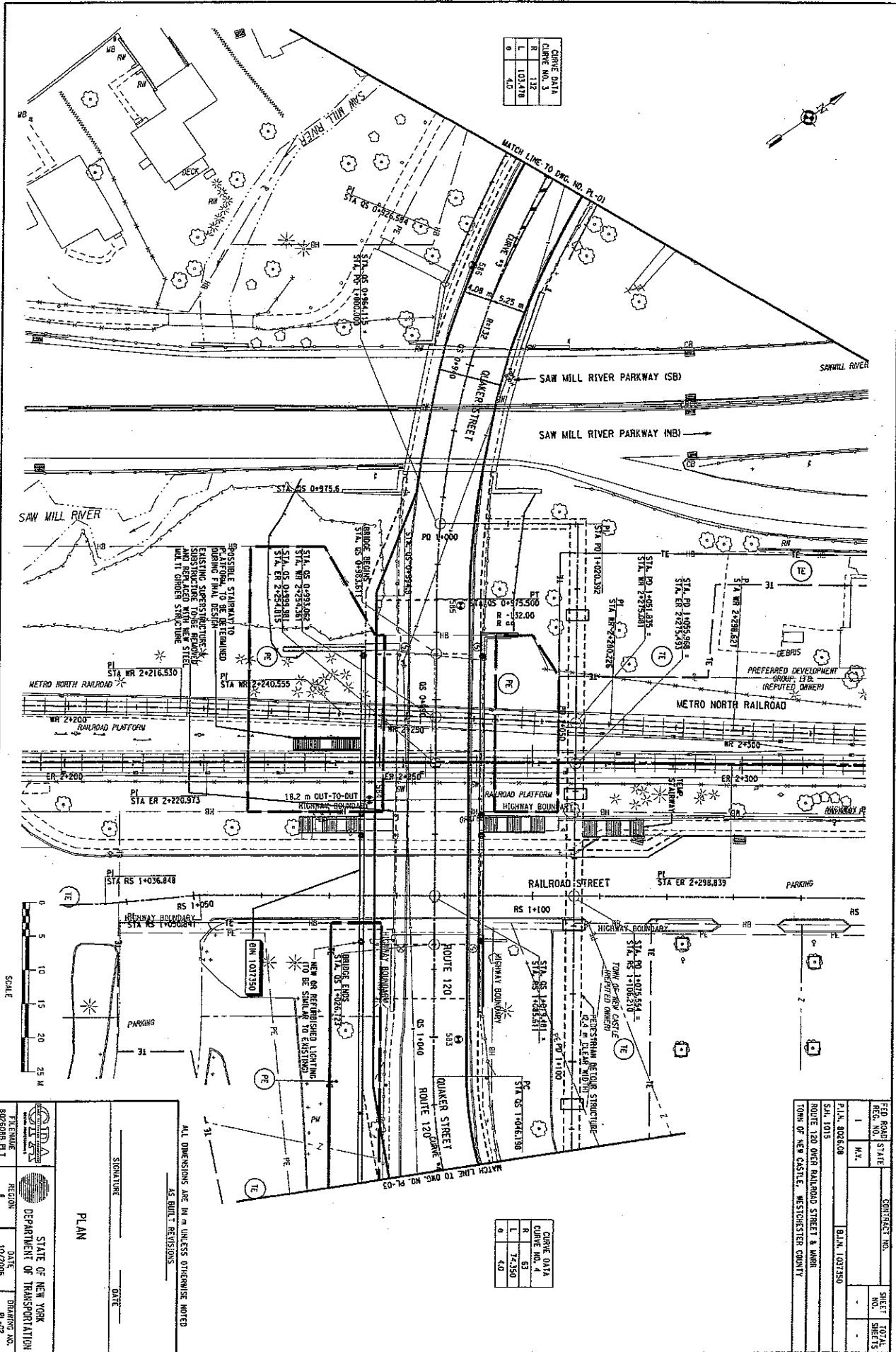
DESIGN SUPERVISOR: --- JOB MANAGER: --- DESIGNED BY: --- CHECKED BY: --- ESTIMATED BY: --- DRAFTED BY: --- CHECKED BY: ---



10/25/2006 11:38 PM G:\Projects\Route 120\826\Sub\Des Report\01\82688b.plt.dgn

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DESIGN SUPERVISOR _____ JOB MANAGER _____ DESIGNED BY _____ CHECKED BY _____ ESTIMATED BY _____ DRAFTED BY _____ CHECKED BY _____



PLAN

SIGNATURE _____ DATE _____

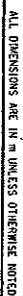
ALL DIMENSIONS ARE IN M UNLESS OTHERWISE NOTED
AS BUILT REVISIONS

FILE NAME	REGION	DATE	DRAWING NO.
802608B.PLT	8	10/2006	PL-02





STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

FIELD ROAD STATE	CONTRACT NO.	SHEET NO.	TOTAL SHEETS
PLA. 802608			
SH. 1015	B.L.N. 1017350		
ROUTE 120 OVER RAILROAD STREET & MAIN			
TOWN OF NEW CASTLE, WESTCHESTER COUNTY			

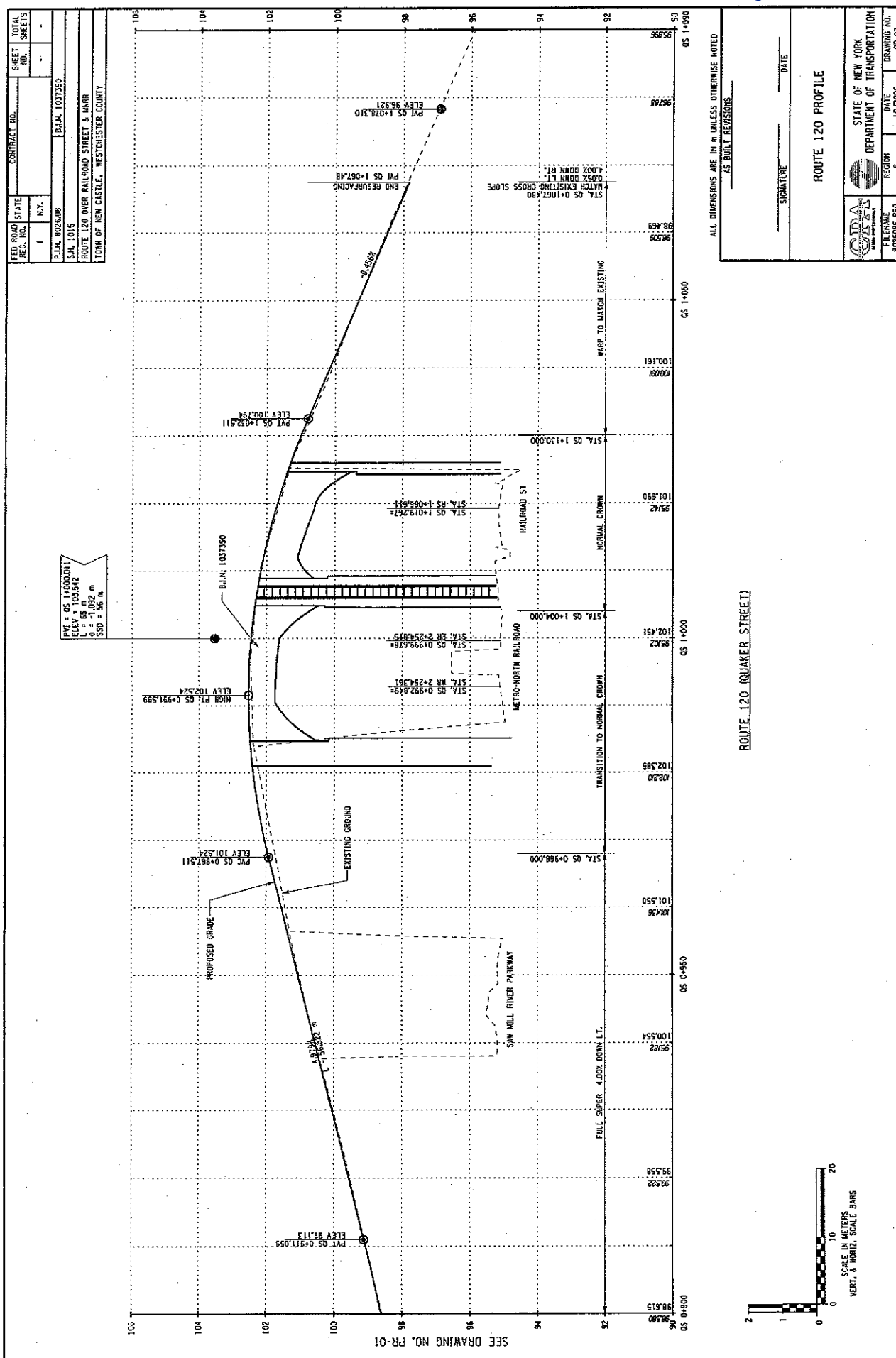


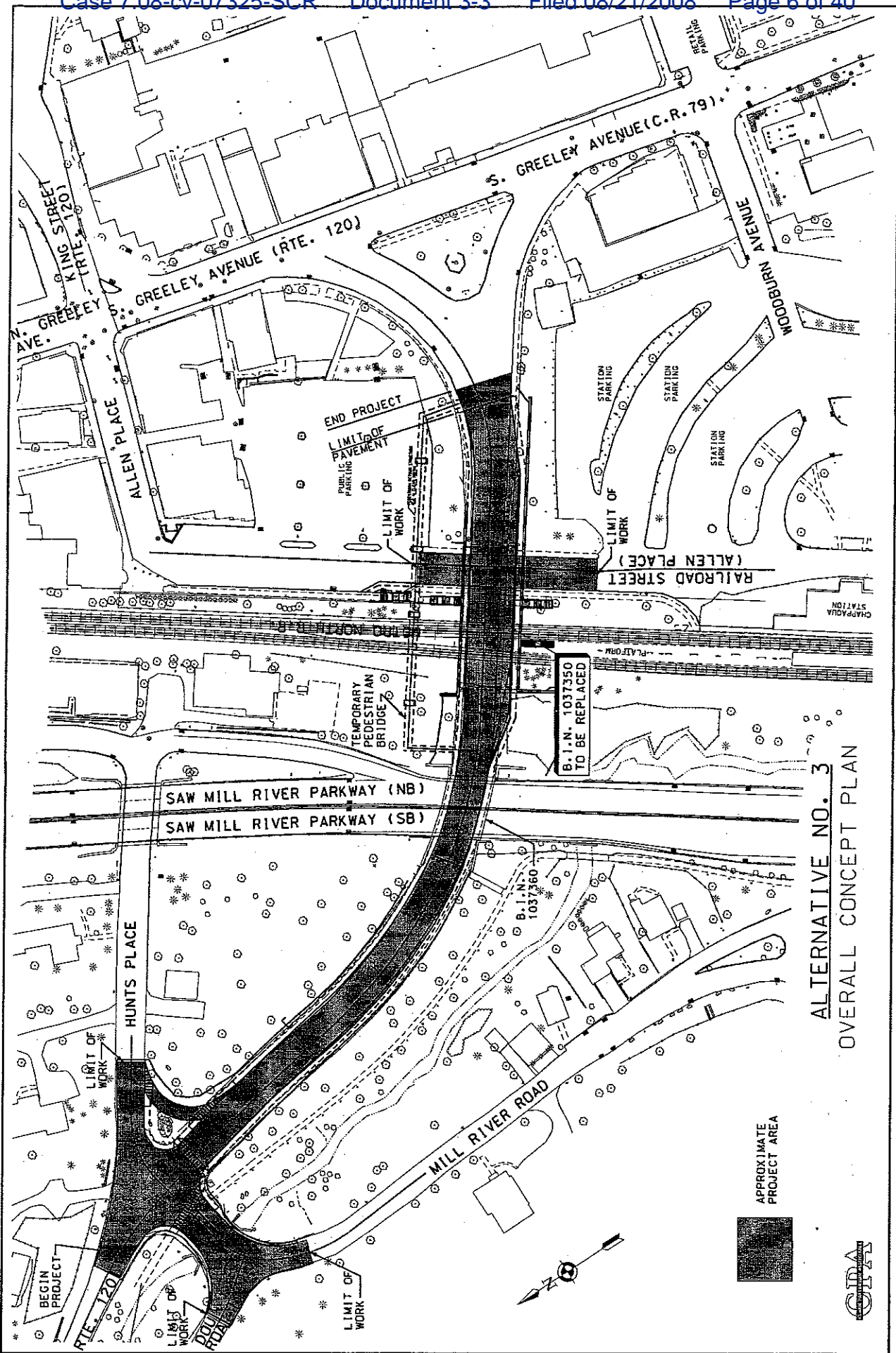
SIGNATURE: _____

DATE: _____

 STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION	REGION 8	DATE 10/20/2006	DRAWING NO. PL-03
 STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION	REGION 8	DATE 10/20/2006	DRAWING NO. PL-03

FED. ROAD DIST. NO.	STATE	COUNTY	SHEET NO.	SHEET TOTAL
1	N.Y.		-	-





ALTERNATIVE NO. 3
OVERALL CONCEPT PLAN

APPROXIMATE
PROJECT AREA



APPENDIX C
Maintenance and Protection of Traffic,
Typical Sections for Staged Bridge Construction
Alternative No. 3 – Bridge Replacement
Alternative No. 3B

APPENDIX D

Accident and Capacity Analysis Information

Alternative No. 3 – Bridge Replacement

Accident Rate Calculations/Data

Traffic Count Diagrams

Level of Service (LOS) Tables

Accident Rates

Project Name: NY Route 120 over Metro-North Railroad and Railroad Street

Project Number: 8216.00

Designer: Kevin Rooney, P.E.

Date: October 3, 2006

Linear Rate =
$$\frac{10^6 \times \text{Reported Accidents}}{365 \text{ days} \times 3 \text{ years} \times \text{AADT} \times \text{Length}}$$
 where Length is in kilometers

Intersection Rate =
$$\frac{10^6 \times \text{Reported Accidents}}{365 \text{ days} \times 3 \text{ years} \times \text{AADT}}$$
 where AADT is the sum of average of all approaches

	Reported Accidents	Length	AADT	Linear Rate	Intersection Rate
Quaker Street	6	0.199	13,584	2.01	
Quaker/Hunts-Douglas	12	NA	11,196		0.98

AADT information from NYSDOT, 2003 Traffic Volume Report for Westchester County

Program: sass1702

NYSDOT Safety Information Management System
Accident Verbal Description Report
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available thru 31-DEC-2003

Date: 09/19/06 15:52
Page: 1

Route: 120 Highway Location Ref Mrkr Range: 120 87012138 - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003

*** Ref Mrkr: 120 8701 2138 NON-INTERSECTION ACCIDENTS ***

MAR-07-2002 THU 08:41 AM

Accident Class: NON-REPORTABLE

Police Agency: NEW CASTLE TOWN PD

Case: 2002-30482389
Num of Veh: 2

JUN-06-2002 THU 12:02 PM Persons Killed: 0 Persons Injured: 0

Accident Class: NON-REPORTABLE

Police Agency: 0

Case: 2002-NR0095985
Num of Veh: 2

Type of Accident: COLLISION WITH MOTOR VEHICLE

Traffic Control: STOP SIGN

Manner of Collision: REAR END

Weather: CLOUDY

Road Surface Collision: DRY

Light Condition: DAYLIGHT

Loc. of Ped/Bicycle:

Action of Ped/Bicycle:

Veh: 1

OTHER

Num of Occupants: UNKNOWN

Registered Weight: UNKNOWN

Sex: UNKNOWN

State of Registration: UNKNOWN

Direction of Travel: EAST

Drivers Age: UNKNOWN

Sex: UNKNOWN

Citation Issued: NO

Pre-Accd Action: BACKING

Public Property Damage: NO

Sex: UNKNOWN

School Bus Involved: NO

Apparent Factors: BACKING UNSAFELY

UNKNOWN

Veh: 2

OTHER

Num of Occupants: UNKNOWN

Registered Weight: UNKNOWN

Sex: UNKNOWN

State of Registration: UNKNOWN

Direction of Travel: EAST

Drivers Age: UNKNOWN

Sex: UNKNOWN

Citation Issued: NO

Pre-Accd Action: STOPPED IN TRAFFIC

Public Property Damage: NO

Sex: UNKNOWN

School Bus Involved: NO

Apparent Factors: UNKNOWN

UNKNOWN

JAN-01-2003 WED 10:48 AM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Case: 2003-NR0287615
Num of Veh: 2

Accident Class: NON-REPORTABLE

Police Agency:

Traffic Control: STOP SIGN

Type of Accident: COLLISION WITH MOTOR VEHICLE

Weather: RAIN

Manner of Collision: OTHER

Light Condition: DAYLIGHT

Road Surface Collision: WET

Road Char:

Action of Ped/Bicycle:

not in project

Veh: 1

OTHER

Num of Occupants: UNKNOWN

Registered Weight: UNKNOWN

Sex: UNKNOWN

State of Registration: UNKNOWN

Direction of Travel: SOUTH

Drivers Age: UNKNOWN

Sex: UNKNOWN

Citation Issued: NO

Pre-Accd Action: MAKING RIGHT TURN

Public Property Damage: NO

Sex: UNKNOWN

School Bus Involved: NO

Apparent Factors: UNKNOWN

UNKNOWN

Veh: 2

OTHER

Num of Occupants: UNKNOWN

Registered Weight: UNKNOWN

Sex: UNKNOWN

State of Registration: UNKNOWN

Direction of Travel: SOUTH-EAST

Drivers Age: UNKNOWN

Sex: UNKNOWN

Citation Issued: NO

Pre-Accd Action: MAKING RIGHT TURN

Public Property Damage: NO

Sex: UNKNOWN

School Bus Involved: NO

Apparent Factors: FAILURE TO YIELD RIGHT OF WAY

UNKNOWN

APR-19-2003 SAT 08:34 PM

Persons Killed: 0

Persons Injured: 0

Extent of Injuries:

Case: 2003-NR0454851
Num of Veh: 2

Accident Class: NON-REPORTABLE

Police Agency:

*at 1208**Grady St**RM 120-8701-2140 to**RM 120-8701-2138**(Hwy 85 Road)**(East of railroad)*

Program: sass1702

NYSDOT Safety Information Management System

Accident Verbal Description Report

Intersection & Non-Intersection Accidents

Complete Accident Data Only Available thru 31-DEC-2003

Date: 09/19/06 15:52

Page: 2

Route: 120 Highway Location Ref Mrkr Range: 120 87012138 - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003
 *** Ref Mrkr: 120 8701 2138 NON-INTERSECTION ACCIDENTS *** (Continued)

Type of Accident: COLLISION WITH MOTOR VEHICLE
 Manner of Collision: RIGHT ANGLE
 Road Surface Collision: DRY
 Loc. of Ped/Bicycle:

Traffic Control: YIELD SIGN
 Weather: CLEAR
 Light Condition: DARK-ROAD LIGHTED

Road Char:
 Action of Ped/Bicycle:

Veh: 1 OTHER
 Num of Occupants: UNKNOWN
 Direction of Travel: SOUTH
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: UNKNOWN
 Registered Weight: UNKNOWN
 Drivers Age: UNKNOWN
 Public Property Damage: NO
 Sex: UNKNOWN
 State of Registration: UNKNOWN
 Citation Issued: NO
 School Bus Involved: NO

Veh: 2 OTHER
 Num of Occupants: UNKNOWN
 Direction of Travel: NORTH
 Pre-Accd Action: MERGING
 Apparent Factors: UNKNOWN
 Registered Weight: UNKNOWN
 Drivers Age: UNKNOWN
 Public Property Damage: NO
 Sex: UNKNOWN
 State of Registration: UNKNOWN
 Citation Issued: NO
 School Bus Involved: NO

FAILURE TO YIELD RIGHT OF WAY

NOV-05-2003 WED 05:05 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:
 Accident Class: NON-REPORTABLE
 Type of Accident: COLLISION WITH MOTOR VEHICLE
 Manner of Collision: OTHER
 Road Surface Collision: WET
 Loc. of Ped/Bicycle:

Traffic Control: YIELD SIGN
 Weather: RAIN
 Light Condition: DARK-ROAD LIGHTED

Road Char:
 Action of Ped/Bicycle:

Veh: 1 OTHER
 Num of Occupants: UNKNOWN
 Direction of Travel: SOUTH-EAST
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: UNKNOWN
 Registered Weight: UNKNOWN
 Drivers Age: UNKNOWN
 Public Property Damage: NO
 Sex: UNKNOWN
 State of Registration: UNKNOWN
 Citation Issued: NO
 School Bus Involved: NO

Veh: 2 OTHER
 Num of Occupants: UNKNOWN
 Direction of Travel: NORTH-WEST
 Pre-Accd Action: STARTING IN TRAFFIC
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY
 Registered Weight: UNKNOWN
 Drivers Age: UNKNOWN
 Public Property Damage: NO
 Sex: UNKNOWN
 State of Registration: UNKNOWN
 Citation Issued: NO
 School Bus Involved: NO

*** Ref Mrkr: 120 8701 2138 INTERSECTION ACCIDENTS - SPUR GREELEY AVE ***

MAR-08-2001 THU 02:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:
 Accident Class: PROPERTY DAMAGE
 Type of Accident: COLLISION WITH MOTOR VEHICLE
 Manner of Collision: REAR END
 Road Surface Collision: DRY
 Traffic Control: NONE
 Weather: CLOUDY
 Light Condition: DAYLIGHT

Case: 2001-1177049
 Num of Veh: 2

Greeley Ave

Program: sass1702

NYSDOT Safety Information Management System
Accident Verbal Description Report
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available thru 31-DEC-2003

Date: 09/19/06 15:52
Page: 3

Route: 120 Highway Location Ref Mkr Range: 120 87012138 - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003

*** Ref Mkr: 120 8701 2138 INTERSECTION ACCIDENTS - SPUR GREELEY AVE *** (Continued)

Loc. of Ped/Bicycle: NOT ENTERED	Registered Weight: 5	State of Registration: UNKNOWN
Num of Occupants: 2	Drivers Age: 48	Citation Issued: NO
Direction of Travel: WEST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: STOPPED IN TRAFFIC	UNKNOWN	
Apparent Factors: UNKNOWN		
Veh: 1 CAR/VAN/PICKUP	Registered Weight: 4053	State of Registration: UNKNOWN
Num of Occupants: 1	Drivers Age: 26	Citation Issued: NO
Direction of Travel: WEST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: GOING STRAIGHT AHEAD	UNKNOWN	
Apparent Factors: FOLLOWING TOO CLOSELY		
Veh: 2 CAR/VAN/PICKUP	Registered Weight: 4053	State of Registration: UNKNOWN
Num of Occupants: 1	Drivers Age: 26	Citation Issued: NO
Direction of Travel: WEST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: GOING STRAIGHT AHEAD	UNKNOWN	
Apparent Factors: FOLLOWING TOO CLOSELY		
JUN-08-2002 SAT 12:46 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C	Police Agency: PD WESTCHESTER COUNTY DPS	Case: 2002-30621276
Accident Class: INJURY	Traffic Control: STOP SIGN	Num of Veh: 3
Type of Accident: COLLISION WITH MOTOR VEHICLE	Weather: CLEAR	
Manner of Collision: OTHER	Light Condition: DAYLIGHT	
Road Surface Collision: DRY	Action of Ped/Bicycle: NOT APPLICABLE	
Loc. of Ped/Bicycle: NOT APPLICABLE		
Veh: 1 CAR/VAN/PICKUP	Registered Weight: 2468	State of Registration: NY
Num of Occupants: 4	Drivers Age: 44	Citation Issued: NO
Direction of Travel: EAST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: STOPPED IN TRAFFIC	NOT APPLICABLE	
Apparent Factors: NOT APPLICABLE		
Veh: 2 CAR/VAN/PICKUP	Registered Weight: 3415	State of Registration: NY
Num of Occupants: 1	Drivers Age: 59	Citation Issued: NO
Direction of Travel: EAST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: STOPPED IN TRAFFIC	UNKNOWN	
Apparent Factors: NOT APPLICABLE		
Veh: 3 CAR/VAN/PICKUP	Registered Weight: 3203	State of Registration: NY
Num of Occupants: 1	Drivers Age: 42	Citation Issued: NO
Direction of Travel: EAST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: GOING STRAIGHT AHEAD	UNKNOWN	
Apparent Factors: DRIVER INATTENTION		
*** Ref Mkr: 120 8701 2138 INTERSECTION ACCIDENTS - ALLEN DR ***		
OCT-14-2001 SUN 12:30 PM		
Accident Class: NON-REPORTABLE		
Douglas Rd.	Police Agency: NEW CASTLE TOWN PD	Case: 2001-30146446
& Quarter Street		Num of Veh: 2

Program: sass1702

NYSDOT Safety Information Management System
Accident Verbal Description Report
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available thru 31-DEC-2003

Date: 09/19/06 15:52
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Route: 120 Highway Location Ref Mkr Range: 120 87012138 - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003

*** Ref Mkr: 120 8701 2139 NON-INTERSECTION ACCIDENTS ***

APR-01-2001 SUN 03:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: Case: 2001-1204462
 Accident Class: PROPERTY DAMAGE Police Agency: Traffic Control: NONE Num of Veh: 2
 Type of Accident: COLLISION WITH MOTOR VEHICLE Weather: CLOUDY
 Manner of Collision: RIGHT ANGLE Road Char: CURVE AND GRADE Light Condition: DAYLIGHT
 Road Surface Collision: DRY Action of Ped/Bicycle: NOT ENTERED
 Loc. of Ped/Bicycle: NOT ENTERED

along Quaker

Veh: 1 CAR/VAN/PICKUP Registered Weight: 2388 State of Registration: UNKNOWN
 Num of Occupants: UNKNOWN Drivers Age: 38 Citation Issued: NO
 Direction of Travel: WEST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: GOING STRAIGHT AHEAD Apparent Factors: UNKNOWN Sex: UNKNOWN

Veh: 2 CAR/VAN/PICKUP Registered Weight: 3032 State of Registration: UNKNOWN
 Num of Occupants: UNKNOWN Drivers Age: 57 Citation Issued: NO
 Direction of Travel: SOUTH-EAST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: MAKING LEFT TURN Apparent Factors: UNKNOWN Sex: UNKNOWN

APR-12-2002 FRI 04:40 PM *near end of Rd light* Police Agency: NEW CASTLE TOWN PD Case: 2002-30498379
 Accident Class: NON-REPORTABLE Num of Veh: 3

On Road 120

NOV-07-2002 THU 07:40 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C Case: 2002-30775664
 Accident Class: INJURY Police Agency: NEW CASTLE TOWN PD Num of Veh: 2
 Type of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
 Manner of Collision: REAR END Weather: CLEAR
 Road Surface Collision: DRY Road Char: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

rear-end on
 Quaker St,
 going SE toward
 Camp as intersection

Veh: 1 BUS Registered Weight: UNKNOWN State of Registration: NY
 Num of Occupants: 1 Drivers Age: 59 Citation Issued: NO
 Direction of Travel: SOUTH-EAST Public Property Damage: NO School Bus Involved: YES
 Pre-Accd Action: SLOWED OR STOPPING Apparent Factors: NOT APPLICABLE Sex: MALE
 Truck/Bus Clsf: NOT ENTERED UNKNOWN

Veh: 2 CAR/VAN/PICKUP Registered Weight: 4173 State of Registration: NY
 Num of Occupants: 1 Drivers Age: 37 Citation Issued: NO
 Direction of Travel: SOUTH-EAST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: SLOWED OR STOPPING Apparent Factors: FOLLOWING TOO CLOSELY UNKNOWN

Program: sass1702

Date: 09/19/06 15:52

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NYSDOT Safety Information Management System
Accident Verbal Description Report
Intersection & Non-Intersection Accidents
Complete Accident Data Only Available thru 31-DEC-200

Route: 120 Highway Location Ref Mrkr Range: 120 87012138 ~ 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003

*** Ref Mrkr: 120 8701 2139 NON-INTERSECTION ACCIDENTS *** (Continued)

MAR-07-2003 FRI 10:00 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: Case: 2003-NR0257907
 Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2
 Type of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
 Manner of Collision: LEFT TURN (AGAINST OTHER CAR) Weather: CLEAR
 Road Surface Collision: WET Road Char: Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: Action of Ped/Bicycle:

Veh: 1 OTHER
 Num of Occupants: UNKNOWN
 Direction of Travel: EAST
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: UNKNOWN
 Registered Weight: UNKNOWN
 Drivers Age: UNKNOWN
 Sex: UNKNOWN
 Public Property Damage: NO
 State of Registration: UNKNOWN
 Citation Issued: NO
 School Bus Involved: NO
 UNKNOWN

Veh: 2	OTHER	Registered Weight: UNKNOWN	State of Registration: UNKNOWN
	Num of Occupants: UNKNOWN	Drivers Age: UNKNOWN	Sex: UNKNOWN
	Direction of Travel: SOUTH	Public Property Damage: NO	Citation Issued: NO
	Pre-Accd Action: MAKING LEFT TURN		School Bus Involved: NO
	Apparent Factors: FAILURE TO YIELD RIGHT OF WAY		
			UNKNOWN

MAR-17-2003 MON 03:32 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C Case: 2003-30883731
 Accident Class: INJURY Police Agency: NEW CASTLE TOWN PD
 Type of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE Num of Veh: 3
 Manner of Collision: OTHER Road Char: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Road Surface Collision: DRY Action of Ped/Bicycle: NOT APPLICABLE
 Loc. of Ped/Bicycle: NOT APPLICABLE
noted

Veh: 1 CAR/VAN/PICKUP Registered Weight: 4023 State of Registration: NY
 Num of Occupants: 1 Drivers Age: 47 Sex: FEMALE Citation Issued: NO
 Direction of Travel: SOUTH Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: STOPPED IN TRAFFIC
 Apparent Factors: NOT APPLICABLE
 UNKNOWN

Veh: 2 CAR/VAN/PICKUP Registered Weight: 3318 State of Registration: NY
 Num of Occupants: 1 Drivers Age: 19 Sex: FEMALE Citation Issued: NO
 Direction of Travel: SOUTH Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: STOPPED IN TRAFFIC
 Apparent Factors: UNKNOWN UNKNOWN

Veh: 3 CAR/VAN/PICKUP Registered Weight: 3032 State of Registration: NY
 Num of Occupants: 1 Drivers Age: 22 Sex: MALE Citation Issued: NO
 Direction of Travel: SOUTH Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: STARTING IN TRAFFIC
 Accret-Phase: FOLLOWING TOO CLOSELY
 Reaction to Other Involved Vehicle:

Program: sass1702

NYSDOT Safety Information Management System
Accident Verbal Description Report
Intersection & Non-Intersection Accidents
Complete Accident Data Only Available thru 31-DEC-2003

Date: 09/19/06 15:52
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Route: 120 Highway Location Ref Mrkr Range: 120 87012138 - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003

MAY-12-2003 MON 02:15 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:
 Accident Class: NON-REPORTABLE Police Agency: Traffic Control: CLOUDY
 Manner of Collision: COLLISION WITH MOTOR VEHICLE Weather: CLOUDY
 Road Surface Collision: WET Road Char: Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: Action of Ped/Bicycle:

Case: 2003-NR0308295
Num of Veh: 2

Veh: 1 OTHER
 Num of Occupants: UNKNOWN State of Registration: UNKNOWN
 Direction of Travel: WEST Citation Issued: NO
 Pre-Accd Action: STOPPED IN TRAFFIC School Bus Involved: NO
 Apparent Factors: UNKNOWN

Veh: 2 OTHER
 Num of Occupants: UNKNOWN State of Registration: UNKNOWN
 Direction of Travel: WEST Citation Issued: NO
 Pre-Accd Action: STARTING IN TRAFFIC School Bus Involved: NO
 Apparent Factors: FOLLOWING TOO CLOSELY DRIVER INATTENTION

MAY-31-2003 SAT 10:38 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries:
 Accident Class: INJURY Police Agency: NEW CASTLE TOWN PD
 Manner of Collision: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
 Road Surface Collision: DRY Weather: CLEAR
 Loc. of Ped/Bicycle: NOT APPLICABLE Light Condition: DAYLIGHT
 Action of Ped/Bicycle: NOT APPLICABLE

Case: 2003-30923518
Num of Veh: 2

Veh: 1 CAR/VAN/PICKUP
 Num of Occupants: 1 State of Registration: NY
 Direction of Travel: EAST Citation Issued: NO
 Pre-Accd Action: GOING STRAIGHT AHEAD School Bus Involved: NO
 Apparent Factors: NOT APPLICABLE

Veh: 2 CAR/VAN/PICKUP
 Num of Occupants: 1 State of Registration: NY
 Direction of Travel: SOUTH Citation Issued: NO
 Pre-Accd Action: MAKING LEFT TURN School Bus Involved: NO
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY

JUN-10-2003 TUE 10:23 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C
 Accident Class: INJURY Police Agency: NEW CASTLE TOWN PD
 Manner of Collision: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
 Road Surface Collision: OTHER Weather: CLEAR
 Loc. of Ped/Bicycle: NOT APPLICABLE Light Condition: DAYLIGHT
 Action of Ped/Bicycle: NOT APPLICABLE

Case: 2003-30944682
Num of Veh: 3

Program: sass1702

NYSDOT Safety Information Management System
Accident Verbal Description Report
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available thru 31-DEC-2003

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Route: 120 Highway Location Ref Mkr Range: 120 8701213B - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003
 *** Ref Mkr: 120 8701 2139 NON-INTERSECTION ACCIDENTS *** (Continued)

Veh: 1	CAR/VAN/PICKUP	Registered Weight: 4118	Sex: MALE	State of Registration: NY
	Num of Occupants: 1	Drivers Age: 58		Citation Issued: NO
	Direction of Travel: SOUTH	Public Property Damage: NO		School Bus Involved: NO
	Pre-Accd Action: MAKING RIGHT TURN			
	Apparent Factors: NOT APPLICABLE	UNKNOWN		
Veh: 2	CAR/VAN/PICKUP	Registered Weight: 3020	Sex: FEMALE	State of Registration: NY
	Num of Occupants: 1	Drivers Age: 22		Citation Issued: NO
	Direction of Travel: SOUTH	Public Property Damage: NO		School Bus Involved: NO
	Pre-Accd Action: GOING STRAIGHT AHEAD			
	Apparent Factors: PASSING OR LANE USAGE IMPROPERLY	UNKNOWN		
Veh: 3	CAR/VAN/PICKUP	Registered Weight: 4379	Sex: FEMALE	State of Registration: NY
	Num of Occupants: 1	Drivers Age: 42		Citation Issued: NO
	Direction of Travel: NORTH-EAST	Public Property Damage: NO		School Bus Involved: NO
	Pre-Accd Action: STOPPED IN TRAFFIC			
	Apparent Factors: NOT APPLICABLE	UNKNOWN		

DEC-10-2003 WED 06:09 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:
 Accident Class: NON-REPORTABLE Police Agency: Traffic Control: TRAFFIC SIGNAL
 Type of Accident: COLLISION WITH MOTOR VEHICLE Weather: CLOUDY
 Manner of Collision: OTHER Light Condition: DARK-ROAD LIGHTED
 Road Surface Collision: WET Action of Ped/Bicycle:
 Loc. of Ped/Bicycle:

Veh: 1 OTHER
 Num of Occupants: UNKNOWN
 Direction of Travel: NORTH-WEST
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY
 Registered Weight: UNKNOWN
 Drivers Age: UNKNOWN
 Public Property Damage: NO
 Sex: UNKNOWN
 State of Registration: UNKNOWN
 Citation Issued: NO
 School Bus Involved: NO

Veh: 2 OTHER
 Num of Occupants: UNKNOWN
 Direction of Travel: SOUTH-WEST
 Pre-Accd Action: MAKING RIGHT TURN
 Apparent Factors: UNKNOWN
 Registered Weight: UNKNOWN
 Drivers Age: UNKNOWN
 Public Property Damage: NO
 Sex: UNKNOWN
 State of Registration: UNKNOWN
 Citation Issued: NO
 School Bus Involved: NO

DEC-14-2003 SUN 10:35 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:
 Accident Class: NON-REPORTABLE Police Agency: Traffic Control: NONE
 Type of Accident: COLLISION WITH OTHER Weather: RAIN
 Manner of Collision: OTHER Light Condition: DARK-ROAD LIGHTED
 Road Surface Collision: SNOW/ICE
 Road Char:

Case: 2003-NR0263101
Num of Veh: 2

Program: sass1702

NYSDOT Safety Information Management System
Accident Verbal Description Report
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available thru 31-DEC-2003

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Route: 120 Highway Location Ref Mrkr Range: 120 87012138 - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003

*** Ref Mrkr: 120 8701 2139 NON-INTERSECTION ACCIDENTS *** (Continued)

Loc. of Ped/Bicycle:	Action of Ped/Bicycle:	
Veh: 1 OTHER	Registered Weight: UNKNOWN	Sex: UNKNOWN
Num of Occupants: UNKNOWN	Drivers Age: UNKNOWN	State of Registration: UNKNOWN
Direction of Travel: EAST	Public Property Damage: NO	Citation Issued: NO
Pre-Accd Action: GOING STRAIGHT AHEAD	UNKNOWN	School Bus Involved: NO
Apparent Factors: UNKNOWN		
Veh: 2 OTHER	Registered Weight: UNKNOWN	Sex: UNKNOWN
Num of Occupants: UNKNOWN	Drivers Age: UNKNOWN	State of Registration: UNKNOWN
Direction of Travel: WEST	Public Property Damage: NO	Citation Issued: NO
Pre-Accd Action: OTHER	UNKNOWN	School Bus Involved: NO
Apparent Factors: PASSING OR LANE USAGE IMPROPERLY		
*** Ref Mrkr: 120 8701 2139 INTERSECTION ACCIDENTS - INVALID INTERSECTION NUMBER 00 ***		
AUG-13-2001 MON 11:00 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:	Case: 2001-1415387	Num of Veh: 2
Accident Class: PROPERTY DAMAGE	Police Agency:	
Type of Accident: COLLISION WITH MOTOR VEHICLE	Traffic Control: TRAFFIC SIGNAL	
Manner of Collision: OVERTAKING	Weather: CLOUDY	
Road Surface Collision: DRY	Light Condition: DAYLIGHT	
Loc. of Ped/Bicycle: NOT ENTERED	Action of Ped/Bicycle: NOT ENTERED	
Veh: 1 CAR/VAN/PICKUP	Registered Weight: 2976	State of Registration: UNKNOWN
Num of Occupants: 1	Drivers Age: 54	Citation Issued: NO
Direction of Travel: WEST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: MAKING RIGHT TURN	UNKNOWN	
Apparent Factors: UNKNOWN		
Veh: 2 CAR/VAN/PICKUP	Registered Weight: 3195	State of Registration: UNKNOWN
Num of Occupants: 2	Drivers Age: 41	Citation Issued: NO
Direction of Travel: WEST	Public Property Damage: NO	School Bus Involved: NO
Pre-Accd Action: CHANGING LANES	UNSAFE LANE CHANGE	
Apparent Factors: FAILURE TO YIELD RIGHT OF WAY		
AUG-21-2001 TUE 09:00 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:	Case: 2001-1433364	Num of Veh: 2
Accident Class: PROPERTY DAMAGE	Police Agency:	
Type of Accident: COLLISION WITH MOTOR VEHICLE	Traffic Control: TRAFFIC SIGNAL	
Manner of Collision: LEFT TURN (AGAINST OTHER CAR)	Weather: CLEAR	
Road Surface Collision: DRY	Light Condition: DAYLIGHT	
Loc. of Ped/Bicycle: NOT ENTERED	Action of Ped/Bicycle: NOT ENTERED	
Veh: 1 CAR/VAN/PICKUP	Registered Weight: 3170	State of Registration: UNKNOWN

Program: sass1702

NYSDOT Safety Information Management System
Accident Verbal Description Report
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available thru 31-DEC-2003

Date: 09/19/06 15:52
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Route: 120 Highway Location Ref Mkr Range: 120 870121138 - 120 870121140 Dates: 01-JAN-2001 - 31-DEC-2003
 *** Ref Mkr: 120 8701 2139 INTERSECTION ACCIDENTS - INVALID INTERSECTION NUMBER 00 *** (Continued)

Num of Occupants: 1 Drivers Age: 50 Sex: UNKNOWN Citation Issued: NO
 Direction of Travel: EAST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: UNKNOWN

Veh: 2 CAR/VAN/PICKUP Registered Weight: 4257 State of Registration: UNKNOWN
 Num of Occupants: UNKNOWN Drivers Age: 37 Citation Issued: NO
 Direction of Travel: WEST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY UNKNOWN

AUG-24-2001 PRI 09:00 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C Case: 2001-1439371
 Accident Class: INJURY Police Agency: Traffic Control: TRAFFIC SIGNAL Num of Veh: 2
 Type of Accident: COLLISION WITH MOTOR VEHICLE Weather: CLEAR
 Manner of Collision: LEFT TURN (AGAINST OTHER CAR) Light Condition: DARK-ROAD LIGHTED
 Road Surface Collision: DRY Road Char: STRAIGHT/ GRADE Action of Ped/Bicycle: NOT ENTERED
 Loc. of Ped/Bicycle: NOT ENTERED

Veh: 1 CAR/VAN/PICKUP Registered Weight: UNKNOWN State of Registration: UNKNOWN
 Num of Occupants: 1 Drivers Age: 34 Citation Issued: NO
 Direction of Travel: EAST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: UNKNOWN

Veh: 2 CAR/VAN/PICKUP Registered Weight: 1918 State of Registration: UNKNOWN
 Num of Occupants: 5 Drivers Age: 28 Citation Issued: YES
 Direction of Travel: WEST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY TURNING IMPROPER

DEC-24-2001 MON 03:25 PM Persons Killed: 0 Persons Injured: 2 Extent of Injuries: CC Case: 2001-30264155
 Accident Class: INJURY Police Agency: NEW CASTLE TOWN PD Num of Veh: 2
 Type of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
 Manner of Collision: UNKNOWN Weather: CLOUDY
 Road Surface Collision: DRY Road Char: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh: 1 CAR/VAN/PICKUP Registered Weight: 3249 State of Registration: NY
 Num of Occupants: 1 Drivers Age: 21 Citation Issued: NO
 Direction of Travel: SOUTH-WEST Public Property Damage: NO School Bus Involved: NO
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: TRAFFIC CONTROL DEVICES DISREGARDED UNKNOWN

Program: sass1702

NYSDOT Safety Information Management System
 Accident Verbal Description Report
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available thru 31-DEC-2003

 Date: 09/19/06 15:52
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Route: 120 Highway Location Ref Mrkr Range: 120 87012138 - 120 87012140 Dates: 01-JAN-2001 - 31-DEC-2003

*** Ref Mrkr: 120 8701 2139 INTERSECTION ACCIDENTS - INVALID INTERSECTION NUMBER 00 *** (Continued)

Veh: 2	CAR/VAN/PICKUP	Registered Weight: 3080	State of Registration: NY
	Num of Occupants: 2	Drivers Age: 60	Citation Issued: NO
	Direction of Travel: WEST	Public Property Damage: NO	School Bus Involved: NO
	Pre-Accd Action: GOING STRAIGHT AHEAD		
	Apparent Factors: UNKNOWN		

*** Ref Mrkr: 120 8701 2140 NON-INTERSECTION ACCIDENTS ***

NOV-04-2003 TUE 10:58 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries:
 Accident Class: NON-REPORTABLE Police Agency: Traffic Control: TRAFFIC SIGNAL
 Type of Accident: COLLISION WITH MOTOR VEHICLE Weather: RAIN Light Condition: DAYLIGHT
 Manner of Collision: LEFT TURN (AGAINST OTHER CAR) Road Char: Action of Ped/Bicycle:
 Road Surface Collision: WET Loc. of Ped/Bicycle:

 Case: 2003-NR0285316
 Num of Veh: 2

Veh: 1	OTHER	Registered Weight: UNKNOWN	State of Registration: UNKNOWN
	Num of Occupants: UNKNOWN	Drivers Age: UNKNOWN	Citation Issued: NO
	Direction of Travel: EAST	Public Property Damage: NO	School Bus Involved: NO
	Pre-Accd Action: GOING STRAIGHT AHEAD		
	Apparent Factors: UNKNOWN		

Veh: 2	OTHER	Registered Weight: UNKNOWN	State of Registration: UNKNOWN
	Num of Occupants: UNKNOWN	Drivers Age: UNKNOWN	Citation Issued: NO
	Direction of Travel: WEST	Public Property Damage: NO	School Bus Involved: NO
	Pre-Accd Action: MAKING LEFT TURN		
	Apparent Factors: FAILURE TO YIELD RIGHT OF WAY		

TOTAL NUMBER OF ACCIDENTS PRINTED: 23

ABSENCE OF REFERENCE MARKERS OR INTERSECTION WITHIN A SPECIFIED ROADWAY SECTION & TIME PERIOD INDICATES NO ACCIDENTS FOUND

*** END OF REPORT ***

8 = NY 120 & Hunts Place/Douglas Road intersection accidents = 12
 Valid Accidents = 18

Program: sass1701

NYSDOT Safety Information Management System
 Accident Severity Summary
 Intersection & Non-Intersection Accidents
 Complete Accident Data Only Available Thru 31-DEC-2003

Date: 09/19/06 15:54

Route: 120 Highway Location Ref Mrkr Range: 120 87012138 - 120 87012140
 Dates: 01-JAN-2001 thru 31-DEC-2003 Traffic Volume:

Total of Fatal Accd	Total of Injury Accd	Total of PDO Accd	Total of Non-Reportable	Total Number of Accidents	Accident Rate
0	7	4	12	23	

(from Appendix D:)

Quarter ST.

of Accidents = 6

Length = 0.2 km = 0.1242 miles

AADT = 13,584

$$\text{Linear Rate} = \frac{(10^6)(\# \text{ of Accidents})}{(365 \text{ days})(3 \text{ yrs})(\text{AADT})(\text{Length})} = \frac{(10^6)(6)}{(365)(3)(13,584)(0.1242 \text{ miles})} = \underline{3.24}$$

Quarter/Hunts-Douglas

of Accidents = 12

Length = N/A

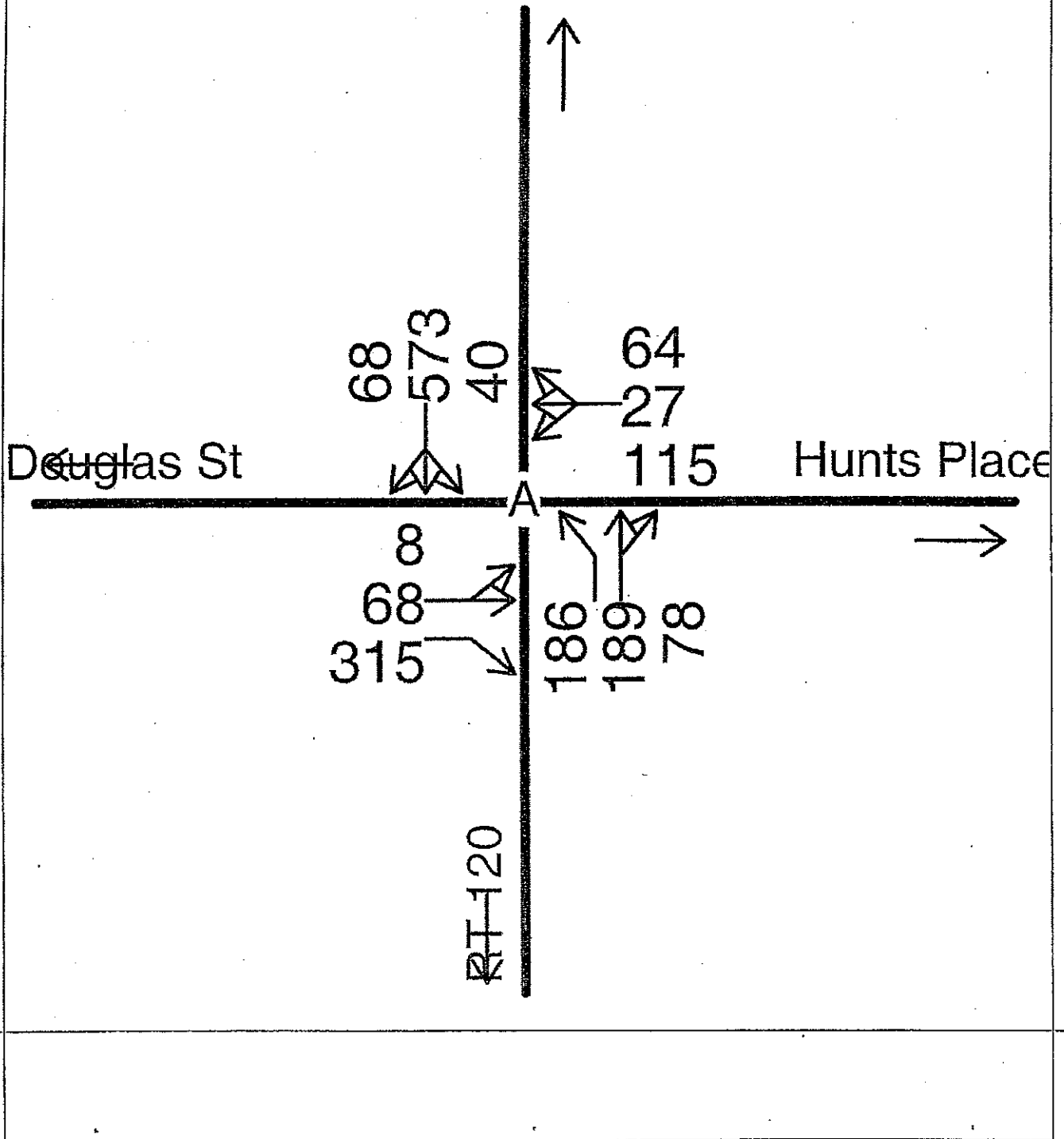
AADT = 11,196

$$\text{Intersection Rate} = \frac{(10^6)(\# \text{ of Accidents})}{(365 \text{ days})(3 \text{ yrs})(\text{AADT})} = \frac{(10^6)(12)}{(365)(3)(11,196)} = \underline{0.98}$$

Calcs by
 BJD

Map - RT 120 @ Hunts Place
Levels of Service

11/2004
3/28/2006



Timing Plan: AM peek
JMG

11/2004

Lanes, Volumes, Timings
3: Douglas St & Rt 120

11/2004

3/28/2006

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↕	↗		↕		↗	↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	150		0	0		0
Storage Lanes	0		1	0		0	1		0	0		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	350	350	350	350	350		350	350		350	350	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt			0.850		0.958			0.956			0.986	
Flt Protected		0.995			0.973		0.950				0.997	
Satd. Flow (prot)	0	1800	1538	0	1687	0	1719	1730	0	0	1779	0
Flt Permitted		0.968			0.795		0.337				0.971	
Satd. Flow (perm)	0	1751	1538	0	1378	0	610	1730	0	0	1732	0
Right Turn on Red			Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)			274		39		62				17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30		30		30		30	
Link Distance (ft)		1000			1000		1000		1000		1000	
Travel Time (s)		22.7			22.7		22.7		22.7		22.7	
Volume (vph)	8	68	815	115	27	64	186	189	78	40	573	66
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	9	76	350	128	30	71	207	210	87	44	637	76
Lane Group Flow (vph)	0	85	350	0	229	0	207	297	0	0	757	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases			2	6			8		8		4	
Detector Phases		2	2	6	6		8	8		4	4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	21.0	21.0	21.0	21.0	21.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0
Total Split (%)	35%	35%	35%	35%	35%	0%	65%	65%	0%	65%	65%	0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	None	None		None	None		None	None	
Act Effct Green (s)		13.2	13.2		13.2		29.7	29.7			29.7	
Actuated g/C Ratio		0.27	0.27		0.27		0.60	0.60			0.60	
v/c Ratio		0.18	0.57		0.58		0.57	0.28			0.72	
Uniform Delay, d1		13.7	3.0		12.6		5.7	3.4			6.4	
Delay		15.8	5.1		14.8		8.1	4.2			7.9	
LOS		B	A		B		A	A			A	
Approach Delay		7.2			14.8		5.8				7.9	
Approach LOS		A			B		A				A	

RT 120 @ Hunts Place
Timing Plan: AM peek
CLARKPSUW1-LX51

Synchro 5 Light Report
Page 11

Lanes, Volumes, Timings
3: Douglas St & Rt 120





11/2004
3/28/2006

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 8.0
Intersection Capacity Utilization 86.5%

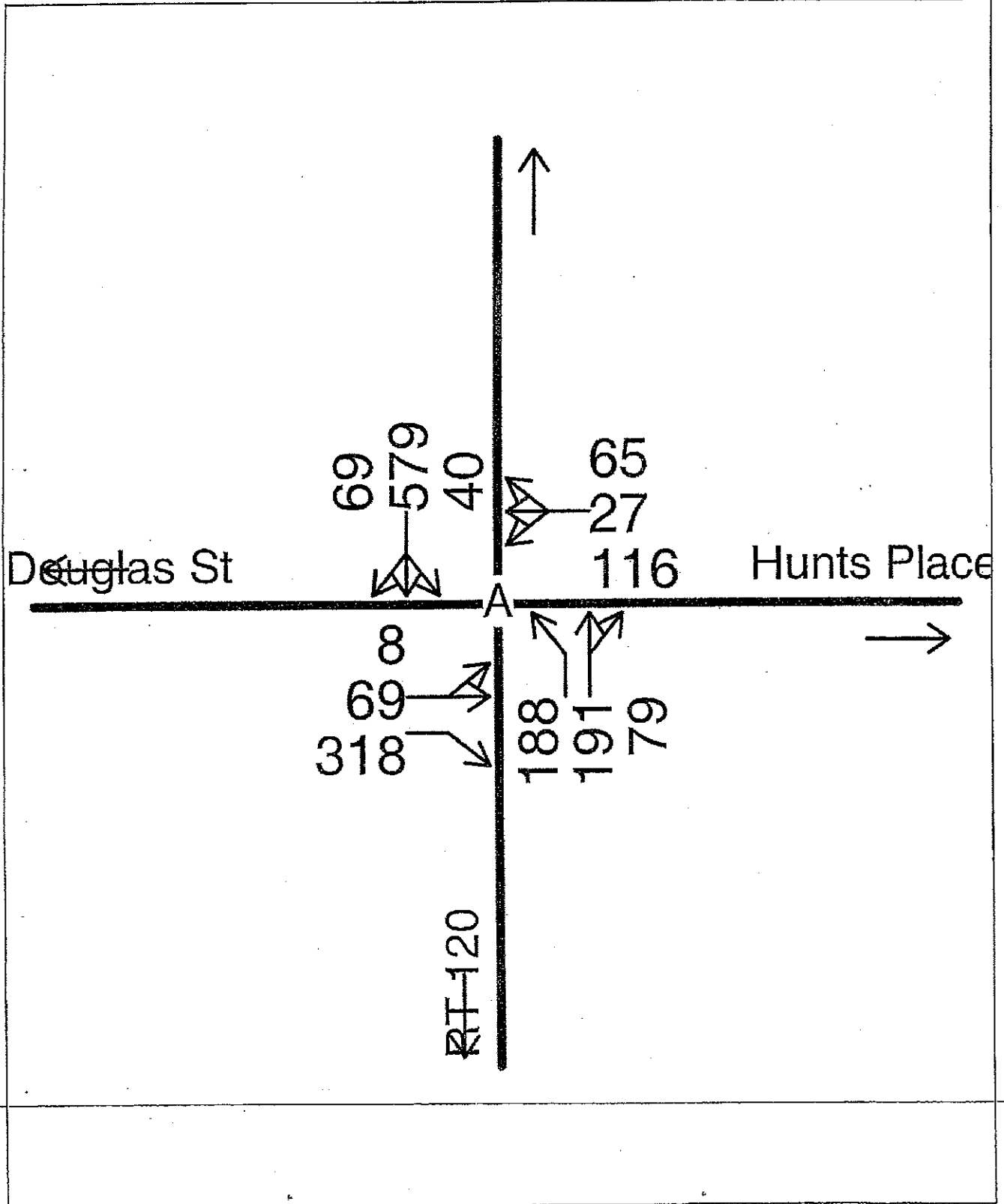
Intersection LOS: A
ICU Level of Service D

Splits and Phases: 3: Douglas St & Rt 120

 p2	 p4
21s	39s
 p6	 p8
21s	39s

Map - RT 120 @ Hunts Place
Levels of Service

2006
3/28/2006



Timing Plan: AM peak
JMG

2005

Lanes, Volumes, Timings
3: Douglas St & Rt 120

2006
3/28/2006

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		150	1000		0	150		0	0		0
Storage Lanes	0		1	0		0	1		0	0		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	350	350	350	350	350		350	350		350	350	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt			0.850		0.958			0.956			0.987	
Flt Protected		0.995			0.973		0.950				0.997	
Satd. Flow (prot)	0	1800	1538	0	1687	0	1719	1730	0	0	1781	0
Flt Permitted		0.968			0.795		0.334				0.970	
Satd. Flow (perm)	0	1751	1538	0	1378	0	604	1730	0	0	1732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			270		39			62			17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			1000			1000	
Travel Time (s)		22.7			22.7			22.7			22.7	
Volume (vph)	8	68	315	115	27	64	186	189	78	40	573	68
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%
Adj. Flow (vph)	9	76	354	129	30	72	209	212	88	45	643	76
Lane Group Flow (vph)	0	85	354	0	231	0	209	300	0	0	764	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		8			4			
Detector Phases	2	2	2	6	6	8	8		4	4		
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	21.0	21.0	21.0	21.0	21.0	0.0	39.0	39.0	0.0	39.0	39.0	0.0
Total Split (%)	35%	35%	35%	35%	35%	0%	65%	65%	0%	65%	65%	0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	None	None		None	None		None	None	
Act Effct Green (s)		13.2	13.2		13.2		29.7	29.7			29.7	
Actuated g/C Ratio		0.27	0.27		0.27		0.60	0.60			0.60	
v/c Ratio		0.18	0.58		0.58		0.58	0.28			0.73	
Uniform Delay, d1		13.7	3.3		12.6		5.7	3.4			6.5	
Delay		15.8	5.3		14.9		8.2	4.2			8.0	
LOS		B	A		B		A	A			A	
Approach Delay		7.4			14.9			5.9			8.0	
Approach LOS		A			B			A			A	

RT 120 @ Hunts Place
Timing Plan: AM peak
CLARKPSUW1-LX51

Synchro 5 Light Report
Page 1

Lanes, Volumes, Timings
3: Douglas St & Rt 120





2006
3/28/2006

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 8.1
Intersection Capacity Utilization 87.2%

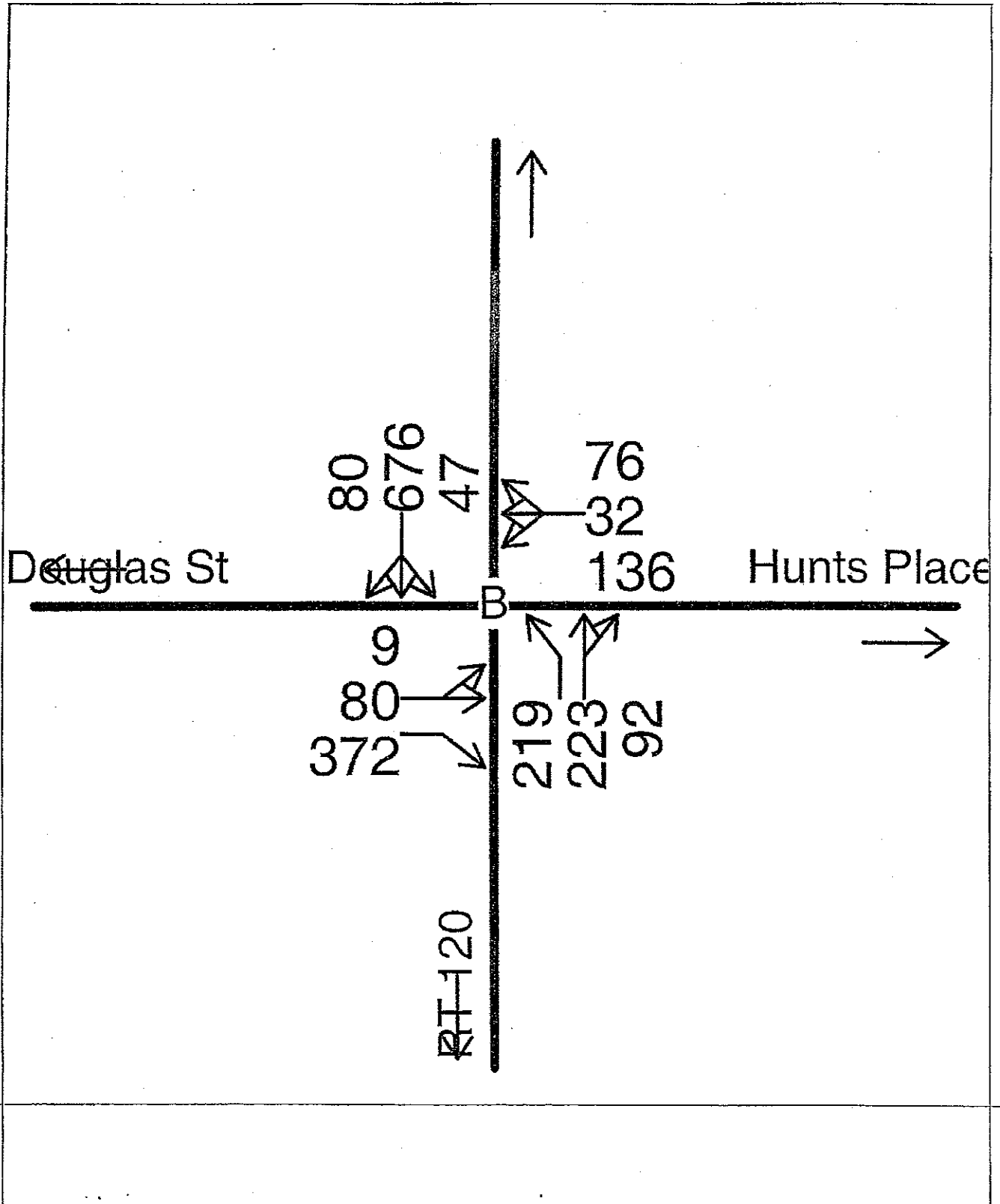
Intersection LOS: A
ICU Level of Service D

Splits and Phases: 3: Douglas St & Rt 120

 02	 04
21s	39s
 05	 08
21s	39s

Map - RT 120 @ Hunts Place
Levels of Service

2039
3/28/2006



Timing Plan: AM peek
JMG

2038

Lanes, Volumes, Timings
3: Douglas St & Rt 120

2039
3/28/2006

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150	0	0	0	150	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	1	0	0	0	0	0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	350	350	350	350	350	350	350	350	350	350	350	350
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	15	9	15	15	9	15	15	9	15	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00										
Frt			0.850		0.958			0.956			0.987	
Frt Protected		0.995			0.973		0.950				0.997	
Satd. Flow (prot)	0	1800	1538	0	1687	0	1719	1730	0	0	1781	0
Frt Permitted		0.964			0.778		0.296				0.966	
Satd. Flow (perm)	0	1744	1538	0	1349	0	536	1730	0	0	1725	0
Right Turn on Red			Yes		Yes		Yes		Yes		Yes	Yes
Satd. Flow (RTOR)			222		38		64				17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Travel Time (s)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Volume (vph)	8	68	315	115	27	64	186	189	78	40	573	68
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	118%	118%	118%	118%	118%	118%	118%	118%	118%	118%	118%	118%
Adj. Flow (vph)	10	89	413	151	35	84	244	248	102	52	751	89
Lane Group Flow (vph)	0	99	413	0	270	0	244	350	0	0	892	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Detector Phases	2	2	2	2	2	2	2	2	2	2	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
v/c Ratio	0.22	0.73	0.73	0.71	0.71	0.71	0.73	0.32	0.32	0.32	0.83	0.83
Uniform Delay, d1	15.5	7.9	7.9	15.3	15.3	15.3	6.9	3.7	3.7	3.7	7.6	7.6
Delay	16.9	10.5	10.5	18.9	18.9	18.9	17.1	4.3	4.3	4.3	12.4	12.4
LOS	B	B	B	B	B	B	B	A	A	A	B	B
Approach Delay	11.8	11.8	11.8	18.9	18.9	18.9	9.6	9.6	9.6	9.6	12.4	12.4
Approach LOS	B	B	B	B	B	B	A	A	A	A	B	B

RT 120 @ Hunts Place
Timing Plan: AM peak
CLARKPSUW1-LX51

Synchro 5 Light Report
Page 1

Lanes, Volumes, Timings

3: Douglas St & Rt 120

2039
3/28/2006

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 54.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83





Intersection Signal Delay: 12.3

Intersection Capacity Utilization 99.1%

Intersection LOS: B

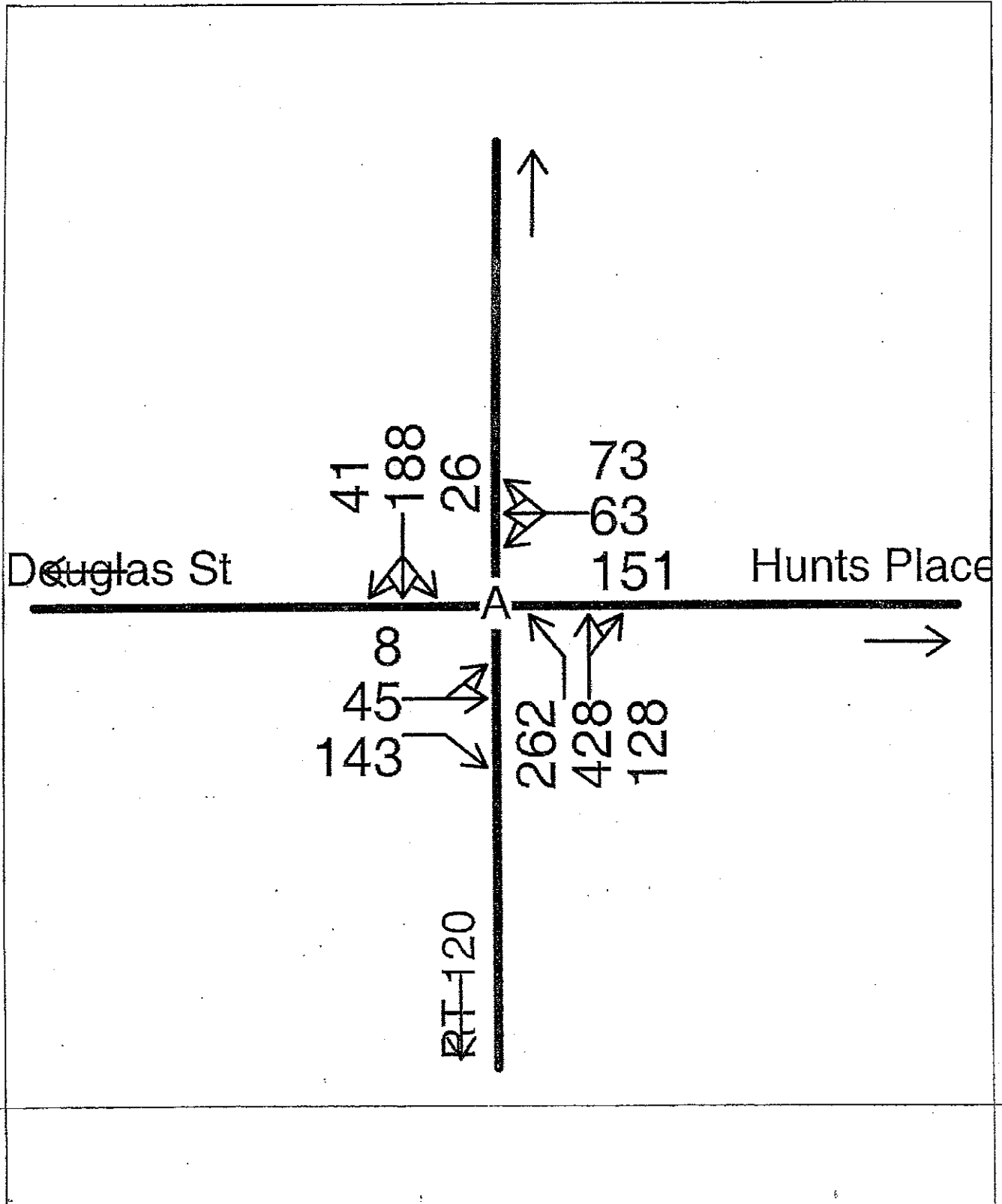
ICU Level of Service E

Splits and Phases: 3: Douglas St & Rt 120

 02	 04
20 s	40 s
 06	 03
20 s	40 s

Map - RT 120 @ Hunts Place
Levels of Service

11/2004
3/28/2006



Timing Plan: PM peak
JMG

11/2004

Lanes, Volumes, Timings
3: Douglas St & Rt 120

11/2004

3/28/2006

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↰	↱		↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	150		0	0		0
Storage Lanes	0		1	0		0	1		0	0		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	350	350	350	350	350		350	350		350	350	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt			0.850		0.966			0.966			0.978	
Flt Protected		0.992			0.974		0.950				0.995	
Satd. Flow (prot)	0	1795	1538	0	1703	0	1719	1748	0	0	1761	0
Flt Permitted		0.950			0.815		0.582				0.926	
Satd. Flow (perm)	0	1719	1538	0	1425	0	1053	1748	0	0	1639	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159		40			43			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			1000			1000	
Travel Time (s)		22.7			22.7			22.7			22.7	
Volume (vph)	8	45	143	151	63	73	262	428	128	26	188	41
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	9	50	159	168	70	81	291	476	142	29	209	46
Lane Group Flow (vph)	0	59	159	0	319	0	291	618	0	0	284	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Detector Phases	2	2	2	6	6		8	8		4	4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	22.0	22.0	22.0	22.0	22.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	44%	44%	44%	44%	44%	0%	56%	56%	0%	56%	56%	0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	None	None		None	None		None	None	
Act Effct Green (s)		14.9	14.9		14.9		22.5	22.5			22.5	
Actuated g/C Ratio		0.34	0.34		0.34		0.51	0.51			0.51	
v/c Ratio		0.10	0.25		0.62		0.54	0.67			0.33	
Uniform Delay, d1		9.7	0.0		10.2		6.9	7.0			5.4	
Delay		10.4	2.6		11.4		8.8	8.6			6.5	
LOS		B	A		B		A	A			A	
Approach Delay		4.7			11.4			8.7			6.5	
Approach LOS		A			B			A			A	

RT 120 @ Hunts Place
Timing Plan: PM peak
CLARKPSUW1-LX51

Synchro 5 Light Report
Page 1

Lanes, Volumes, Timings

11/2004

3: Douglas St & Rt 120

3/28/2006

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 43.7

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.67





Intersection Signal Delay: 8.3

Intersection Capacity Utilization 83.6%

Intersection LOS: A

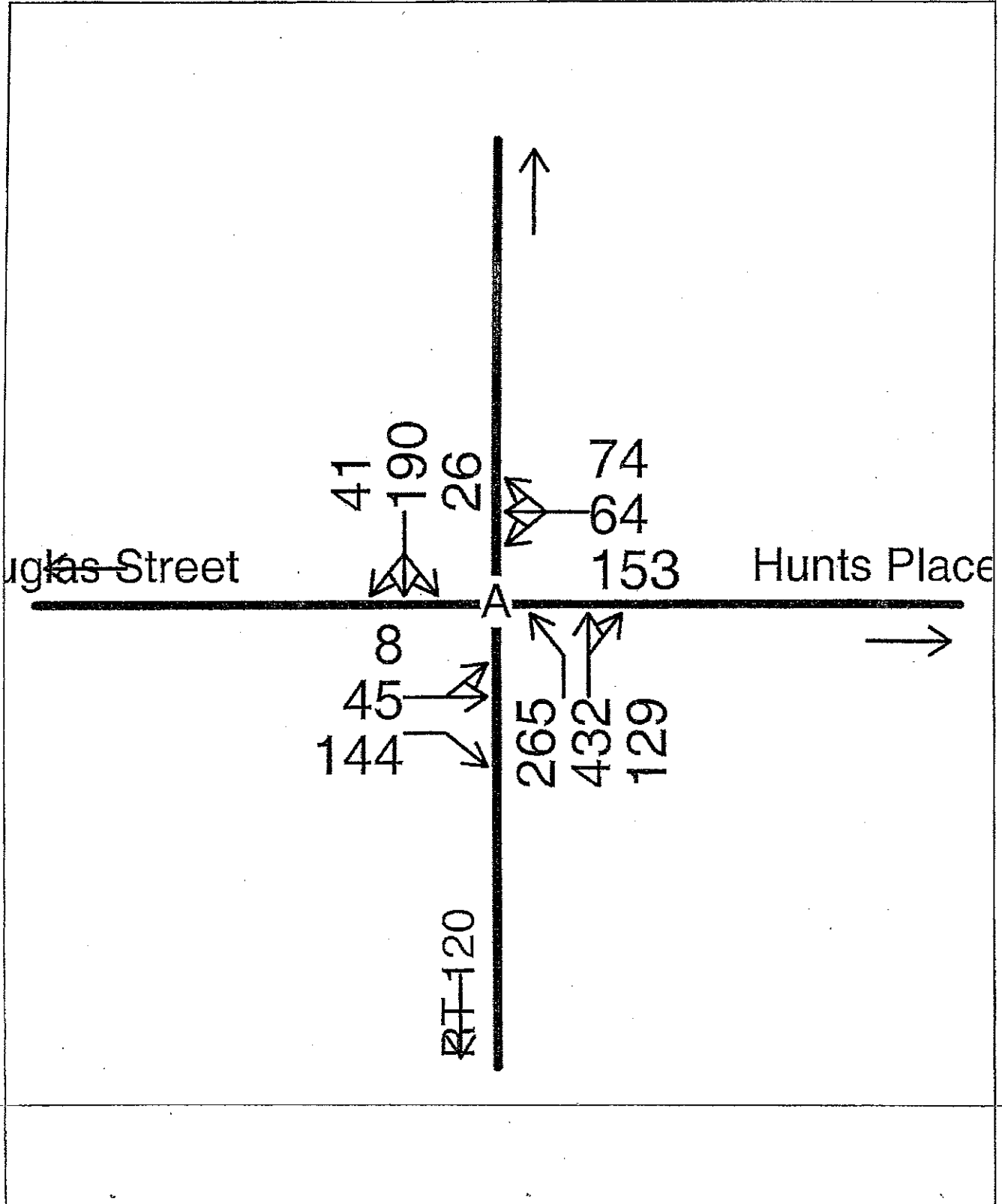
ICU Level of Service D

Splits and Phases: 3: Douglas St & Rt 120

 22	 26
 22	 26

Map - RT 120 @ Hunts Place
Levels of Service

2006
3/28/2006



Timing Plan: PM peak
JMG

2005

Lanes, Volumes, Timings
3: Douglas Street & Rt 120

2006
3/28/2006

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↕	↕		↕		↕	↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	150		0	0		0
Storage Lanes	0		1	0		0	1		0	0		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	350	350	350	350	350		350	350		350	350	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt			0.850		0.966			0.965			0.978	
Flt Protected		0.992			0.974		0.950				0.995	
Satd. Flow (prot)	0	1795	1538	0	1703	0	1719	1746	0	0	1761	0
Flt Permitted		0.947			0.812		0.453				0.918	
Satd. Flow (perm)	0	1713	1538	0	1419	0	820	1746	0	0	1625	0
Right Turn on Red			Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)			160		37			47			22	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			1000			1000	
Travel Time (s)		22.7			22.7			22.7			22.7	
Volume (vph)	8	45	143	151	63	73	262	428	128	26	188	41
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%
Adj. Flow (vph)	9	50	160	169	71	82	294	480	144	29	211	46
Lane Group Flow (vph)	0	59	160	0	322	0	294	624	0	0	286	0
Turn Type	Perm		Perm	Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Detector Phases	4	4	4	8	8		5	2		6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0		8.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	0.0	9.0	30.0	0.0	21.0	21.0	0.0
Total Split (%)	40%	40%	40%	40%	40%	0%	18%	60%	0%	42%	42%	0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	Min	Min	Min	None	None		None	None		None	None	
Act Effect Green (s)		14.0	14.0		14.0		23.4	23.4			14.0	
Actuated g/C Ratio		0.32	0.32		0.32		0.54	0.54			0.32	
v/c Ratio		0.11	0.27		0.67		0.52	0.65			0.53	
Uniform Delay, d1		10.3	0.0		11.0		5.6	6.4			10.9	
Delay		11.4	3.0		13.2		6.6	7.6			11.8	
LOS		B	A		B		A	A			B	
Approach Delay		5.2			13.2			7.3			11.8	
Approach LOS		A			B			A			B	

RT 120 @ Hunts Place
Timing Plan: PM peak
CLARKPSUW1-LX51

Synchro 5 Light Report
Page 1





Lanes, Volumes, Timings
 3: Douglas Street & Rt 120

2006
 3/28/2006

Intersection Summary

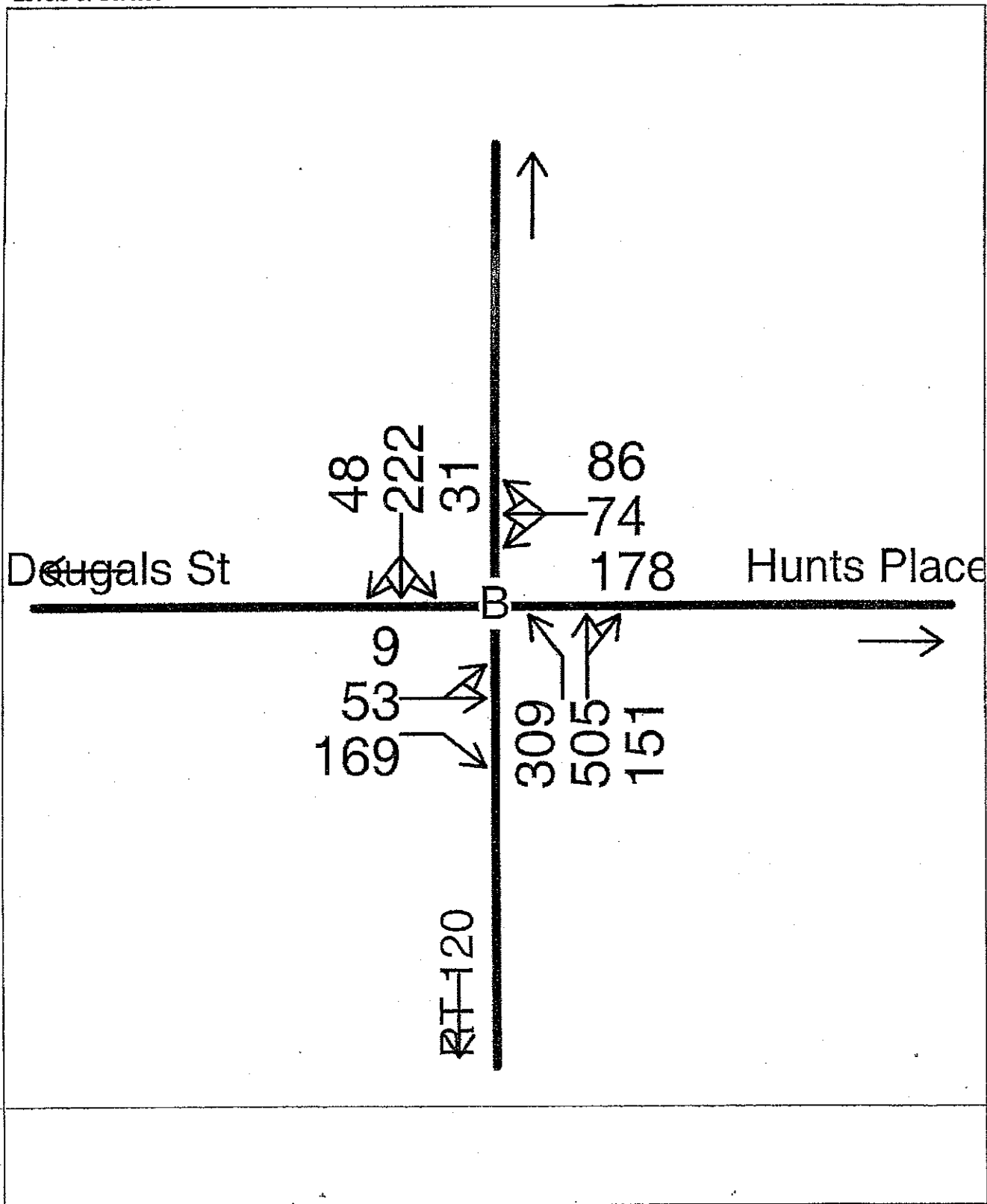
Area Type: Other
 Cycle Length: 50
 Actuated Cycle Length: 43.7
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 8.9
 Intersection Capacity Utilization 84.3%
 Intersection LOS: A
 ICU Level of Service D

Splits and Phases: 3: Douglas Street & Rt 120

 02	 04
30 s	20 s
 05	 06
30 s	20 s

Map - RT 120 @ Hunts Place
Levels of Service

2039
3/28/2006



Timing Plan: PM peak
JMG

2038

Lanes, Volumes, Timings
3: Dougals St & Rt 120

2039
3/28/2006

	↖	→	↘	↙	←	↗	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗			↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	1000		0	150		0	0		0
Storage Lanes	0		1	0		0	1		0	0		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	350	350	350	350	350		350	350		350	350	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt			0.850		0.966			0.965			0.978	
Flt Protected		0.993			0.974		0.950				0.995	
Satd. Flow (prot)	0	1797	1538	0	1703	0	1719	1746	0	0	1761	0
Flt Permitted		0.944			0.802		0.548				0.856	
Satd. Flow (perm)	0	1708	1538	0	1402	0	992	1746	0	0	1515	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		38			45			29	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1000			1000			1000			1000	
Travel Time (s)		22.7			22.7			22.7			22.7	
Volume (vph)	8	45	143	151	63	73	262	428	128	26	188	41
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	118%	118%	118%	118%	118%	118%	118%	118%	118%	118%	118%	118%
Adj. Flow (vph)	10	59	187	198	83	96	344	561	168	34	246	54
Lane Group Flow (vph)	0	69	187	0	377	0	344	729	0	0	334	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Detector Phases	2	2	2	6	6		8	8		4	4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	21.0	21.0	21.0	21.0	21.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	42%	42%	42%	42%	42%	0%	58%	58%	0%	58%	58%	0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	None	None		None	None		None	None	
Act Effct Green (s)		15.7	15.7		15.7		24.6	24.6			24.6	
Actuated g/C Ratio		0.34	0.34		0.34		0.53	0.53			0.53	
v/c Ratio		0.12	0.29		0.76		0.66	0.77			0.41	
Uniform Delay, d1		10.5	0.0		12.0		7.8	8.0			5.9	
Delay		11.0	2.6		16.3		11.5	12.1			6.8	
LOS		B	A		B		B	B			A	
Approach Delay		4.9			16.3			11.9			6.8	
Approach LOS		A			B			B			A	

RT 120 @ Hunts Place
Timing Plan: PM peak
CLARKPSUW1-LX51

Synchro 5 Light Report
Page 1.

Lanes, Volumes, Timings

3: Dougals St & Rt 120

2039
3/28/2006

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 46.4

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77





Intersection Signal Delay: 11.0

Intersection Capacity Utilization 95.7%

Intersection LOS: B

ICU Level of Service E

Splits and Phases: 3: Dougals St & Rt 120

 02	 04
21 s	29 s
 06	 08
21 s	29 s

APPENDIX E
Environmental Checklist
Alternative No. 3 – Bridge Replacement

REGION 8 ENVIRONMENTAL CHECKLIST

PIN: 8026.08.101

DESIGNER:

Clark Patterson Associates

DESCRIPTION:

BIN 1037350, NY RT 120 Over Railroad
St. and Metro-North Railroad

PS&E:

TYPE FUNDING:

COUNTY: Westchester

DATE: 10/5/06

REVISED:

ENVIRONMENTAL CLASSIFICATION

NEPA/EAP:

CLASS I

☒ CLASS II

CLASS III

N/A

SEQRA:

☒ TYPE II

NON-TYPE II

EXEMPT

ENVIRONMENTAL ISSUE	INVOLVEMENT		FURTHER REVIEW REQUIRED	COMMENTS
	YES	NO		
1. Parkland - State, County & Local, & Trails (Appalachian & Others)		X		
2. a) Individual Section 4(f), b) Programmatic 4(f), c) Section 6(f), Section 1010	X			
3. Historic & Archaeological Resources	X			Eligible Bridge
4. Natural Landmarks		X		
5. Visual Resources	X			Bridge/Train Station /Hamlet
6. Coast Guard Bridge Permit		X		
7. Floodplains		X		
8. Wetlands/Federal		X		No impacts
9. Executive Order 11990 (Individual or Programmatic)		X		
10. Wetlands/State - a) NYSDEC Art. 24 (Freshwater) or b) Art. 25, (Tidal) Permit		X		
11. Corps of Engineers - Section 10 or 404 (Nationwide or Individual Permit)		X		
12. Water Quality Certification - NYSDEC Section 401		X		
13. NYSDEC Review For Stream Disturbance (DEC/DOT MOU, Art. 15/24)		X		
14. NYC Watershed		X		
15. Water Quality Analysis (including Toler & Pollutant Loading)		X		
16. Aquifers - Federally Designated, State Identified		X		
17. SPDES Stormwater Permit		X		
18. Wild, Scenic & Recreational Rivers - Federal or State		X		
19. Coastal Zone Management		X		
20. Critical Environmental Areas		X		
21. Endangered or Threatened Species		X		
22. a) Farmland or b) Agricultural District		X		
23. Scenic Byways		X		
24. Air Quality Analysis		X		
25. Noise Analysis		X		
26. Energy Impact Analysis		X		
27. Asbestos		X		
28. Hazardous Waste	X			Lead Paint
29. Soil Types Documented (For SPDES Projects)		X		
30. Other Issues (List)				

APPENDIX F
NEPA Checklist
Alternative No. 3 – Bridge Replacement

NEPA ASSESSMENT CHECKLIST**Date:** October 20, 2006**Preparer:** Clark Patterson Associates**PIN and Project Title:** 8026.08.101; BIN 1037350, NY Route 120 over Railroad Street and Metro-North Railroad.

Answer the following questions by checking YES or NO.

I. THRESHOLD QUESTION**YES****NO**

1. Does the project involve unusual circumstances as described in 23 CFR §771.117(b)?

___X___

- If YES, the project does not qualify as a Categorical Exclusion and an EA or EIS is required. You may stop completing the checklist.
- If NO, go on.

II. AUTOMATIC CATEGORICAL EXCLUSION**YES****NO**

2. Is the project an action listed as an Automatic Categorical Exclusion in 23 CFR §771.117 (c) (List) and/or is the project an element-specific project classified by FHWA as a Categorical Exclusion on July 22, 1996?

___X___

- If YES to Question 2, the project qualifies for a C List Categorical Exclusion, and you may stop completing the checklist. The checklist should be included in the appendix of the FDR (or Scope Summary Memorandum/Final Design Report). The Categorical Exclusion Determination memo is to be sent to the appropriate Main Office Design liaison unit with a copy of the FDR (or SSM/FDR). A copy of the Categorical Exclusion Determination memo must also be sent to the Offices of Budget and Finance, Project and Letting Management, and others. (Note - Even if YES to question 2, there may be specific environmental issues that still require an action such as an EO 11990 Wetland Finding or a determination of effect on cultural resources. The project is still an Automatic Categorical Exclusion but the necessary action must be taken, such as obtaining FHWA's signature on the wetland finding. Refer to the appropriate section of the Environmental Procedures Manual for guidance.)
- If NO, go on.

This project does not qualify as an Automatic Categorical Exclusion.

III. PROGRAMMATIC CATEGORICAL EXCLUSION

	YES	NO
3. Is the project on new location or does it involve a change in the functional classification or added mainline capacity (add through-traffic lanes)?	_____	<u> X </u>
4. Is this a Type I project under 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction"?	_____	<u> X </u>
5. If the project is located within the limits of a designated sole source aquifer area or the associated stream flow source area, is the drainage pattern altered?	_____	<u> X </u>
6. Does the project involve changes in travel patterns?	_____	<u> X </u>
7. Does the project involve the acquisition of more than minor amounts of temporary or permanent right-of-way (a minor amount of right-of-way is defined as not more than 10 percent of a parcel for parcels under 4 ha (10 acres) in size, 0.4 ha (1 acre) of a parcel 4 ha to 40.5 ha (10 to 100 acres) in size and 1 percent of a parcel for parcels greater than 40.5 ha (100 acres) in size)?	_____	<u> X </u>
8. Does the project require a Section 4(f) evaluation and determination in accordance with the FHWA guidance?	<u> X </u>	_____
	YES	NO
9. Does the project involve commercial or residential displacement?	_____	<u> X </u>

- | | | |
|-----|---|-------------|
| 10. | If Section 106 applies, does FHWA's determination indicate an opinion of adverse effect? | _____X_____ |
| 11. | Does the project involve any work in wetlands requiring a Nationwide Wetland Permit #23? | _____X_____ |
| 12. | Does the project involve any work in wetlands requiring an individual Executive Order 11990 Wetland Finding? | _____X_____ |
| 13. | Has it been determined that the project will significantly encroach upon a flood plain based on preliminary hydraulic analysis and consideration of EO 11988 criteria as appropriate? | _____X_____ |
| 14. | Does the project involve construction in, across or adjacent to a river designated as a component proposed for or included in the National System of Wild and Scenic Rivers? | _____X_____ |
| 15. | Does the project involve any change in access control? | _____X_____ |
| 16. | Does the project involve any known hazardous materials sites or previous land uses with potential for hazardous material remains within the right-of-way? | _____X_____ |
| 17. | Does the project occur in an area where there are Federally listed endangered or threatened species or critical habitat? | _____X_____ |
| 18. | Is the project, pursuant to EPM Chapter 1A and Table 2 and Table 3 of 40 CFR Parts 51 and 93, non-exempt or does it exceed any ambient air quality standard? | _____X_____ |

YES

NO

19. Does the project lack consistency with the New York State Coastal Zone Management Plan and policies of the Department of State, Office of Coastal Zone Management?

_____X

20. Does the project impact or acquire any Prime or Unique Farmland as defined in 7 CFR Part 657 of the Federal Farmland Protection Policy Act and are there outstanding compliance activities necessary? (Note: Interpret compliance activity to mean completion of Form AD 1006.)

_____X

- If NO for questions, 3-20, go on to answer question 21.
- If YES to any question 3-20, project will not qualify as a Programmatic Categorical Exclusion. Answers questions 21 and 22 for documentation only and go on to question 23.

YES

NO

21. Does the project involve the use of a temporary road, detour or ramp closure?

_____X

- If YES to question 21, preparer should complete question 22 (i-v). If questions 3-20 are NO and 21 is YES, the project will still qualify as a Programmatic Categorical Exclusion if questions 22 (i-v) are Yes.

22. Since the project involves the use of temporary road, detour or ramp closure, will all of the following conditions be met?

YES

NO

- i. Provisions will be made for pedestrian access, where warranted, and access by local traffic and so posted.

- | | YES | NO |
|---|-------|-------|
| ii. Through-traffic dependent business will not be adversely affected. | _____ | |
| iii. The detour or ramp closure, to the extent possible, will not interfere with any local special event or festival. | _____ | |
| iv. The temporary road, detour or ramp closure does not substantially change the environmental consequences of the action. | _____ | |
| v. There is no substantial controversy associated with the temporary road, detour or ramp closure. | _____ | |
| 23. Is the project listed in 23 CFR 771.117(d) (D List) or is the project an action <u>similar</u> to those listed in 23 CFR §771.117(d)? | _____ | _____ |

For those questions which precluded a Programmatic Categorical Exclusion, documentation should be provided for any YES response to questions 3-20 or for a NO response to any part of questions 22 (i-v). This documentation, as well as the checklist, should be included in the Design Approval Document, i.e., Final Design Report, etc., to be submitted to the Main Office/FHWA Design liaison unit for submission to the FHWA Division for classification of the project as a Programmatic Categorical Exclusion.

Question # 8 The project requires a Section 4(f) evaluation and determination in accordance with the FHWA guidance since the project will require that bridge, which is National Register Eligible, will be removed and the project will be constructed with Federal Funds. It is assumed that the project will be granted a Programmatic Section 4(f) approval.

Question # 10 After review of the Finding Documentation package that was provided by the NYSDOT, The New York State Office of Parks, Recreation and Historic Preservation (SHPO) has made a determination that the replacement of the existing bridge will result in an adverse effect upon the property which has been determined to be eligible for inclusion in the National Register of Historic Places. We will work with the SHPO to provide mitigation measures during the design of the new structure.

APPENDIX G
Correspondence
Alternative No. 3 – Bridge Replacement



Memorandum

Subject: PIN 8026.08
Route 120 over MNRR
Town of New Castle, Westchester County

Date: November 1, 2006

From: Robert Arnold
Division Administrator
Albany, New York

Reply to
Attn. of: HDO-NY

To: William Gorton, P.E., Regional Design Engineer
New York State Department of Transportation, Region 8
4 Burnett Boulevard
Poughkeepsie, NY 12603

We have reviewed the final design report dated October 2006 and we have previously visited the site. We agree with the contents of the design report except for Section IV.B.3.f. We are striking the first paragraph which is inaccurate.

Nevertheless, the design report adequately demonstrates that the project meets our Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges. Based on the design report, the agreement under Section 106, and our field visits, we have determined that there is no feasible and prudent alternative to the use of the Route 120 Bridge over the Metro North Railroad and Railroad Street in the Hamlet of Chappaqua. We have included measures to minimize harm which include a Level III HABS/HAER recording prior to bridge demolition.

We concur with your assessment that this bridge replacement project meets the conditions and criteria of a categorical exclusion since it will not induce significant environmental impacts.

A handwritten signature in black ink, appearing to read "C. Gatchell".

Chris Gatchell
District Engineer

cc:

Director, Design Quality Assurance Bureau, NYSDOT, POD 23



MEMORANDUM OF AGREEMENT

AMONGST THE FEDERAL HIGHWAY ADMINISTRATION, NEW YORK STATE HISTORIC PRESERVATION OFFICE AND NEW YORK STATE DEPARTMENT OF TRANSPORTATION

PURSUANT TO 36 CFR SECTION 800

**REGARDING THE
ROUTE 120 BRIDGE OVER METRO-NORTH RAILROAD (BIN 1037350)
HAMLET OF CHAPPAQUA, TOWN OF NEW CASTLE, WESTCHESTER COUNTY, NEW YORK**

WHEREAS, the Federal Highway Administration (FHWA) proposes to replace the Route 120 bridge over Metro-North Railroad in the Hamlet of Chappaqua, Town of New Castle, Westchester County, New York, which has been determined eligible for listing in the National Register of Historic Places, and the New York State Department of Transportation (NYSDOT) has consulted with the New York State Historic Preservation Office (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Preservation Act (16 U.S.C. 470f); and,

WHEREAS, the existing bridge is deficient in providing accepted roadway standards and is structurally deficient. Costly rehabilitation and possible reuse of the bridge would not serve a worthwhile purpose because the bridge can not physically accommodate modern requirements. After considering the documented existing conditions, the limited alternatives and the associated costs, retaining the bridge is not a reasonable alternate, and;

WHEREAS, in consultation with Town of New Castle officials, the replacement bridge design will have: arched steel beams that mimic the existing National Register eligible bridges built-up steel plate girders; architecturally distinct pedestrian stairways from Railroad Street/Station Plaza to Route 120 that mimic the detailing of the steel superstructure and stone faced pier of the existing National Register eligible bridge pedestrian stairways; stone faced abutments and pier with architectural reveals/pilasters, similar in overall appearance to the existing National Register eligible bridge abutments and pier, and; refurbished ornamental light fixtures salvaged from the existing National Register eligible bridge.

WHEREAS, the FHWA, the SHPO and the NYSDOT acknowledge that the removal of the Route 120 bridge over Metro-North Railroad will result in an Adverse Effect upon the property which has been determined eligible for listing in the National Register of Historic Places.

NOW, THEREFORE, the FHWA, the SHPO and the NYSDOT agree that the following stipulation will be implemented in order to take into account the effect of the project on historic properties.

STIPULATION

The FHWA, by delegation to NYSDOT, will ensure that the following measures are carried out:

The existing bridge shall be recorded equivalent to HABS Level II documentation standards (plans if available, large format negatives with 8" X 10" prints in report form). Two (2) copies of this documentation shall be prepared in report form and they shall be distributed as follows: one copy to the SHPO (to be forwarded to the State Archives) and one copy to a suitable local repository.

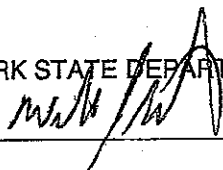
MEMORANDUM OF AGREEMENT

**Route 120 Bridge (BIN 1037350) over Metro-North
Hamlet of Chappaqua, Town of New Castle, Westchester County
NYSDOT PIN 8026.08
SHPO 05PR05945**

EXECUTION AND IMPLEMENTATION of this Memorandum of Agreement between the NYSDOT, the SHPO and the FHWA, in accordance with 36 CFR 800.6(c), and implementation of its terms provide evidence that the FHWA has taken into account the effect of this undertaking on historic properties and afforded the Advisory Council on Historic Preservation an opportunity to comment.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

By



Date

8/17/06

MEMORANDUM OF AGREEMENT

**Route 120 Bridge (BIN 1037350) over Metro-North
Hamlet of Chappaqua, Town of New Castle, Westchester County
NYSDOT PIN 8026.08
SHPO 05PR05945**

EXECUTION AND IMPLEMENTATION of this Memorandum of Agreement between the NYSDOT, the SHPO and the FHWA, in accordance with 36 CFR 800.6(c), and implementation of its terms provide evidence that the FHWA has taken into account the effect of this undertaking on historic properties and afforded the Advisory Council on Historic Preservation an opportunity to comment.

NEW YORK STATE PRESERVATION OFFICER

By Paul J. Quirk, Deputy SHPO

Date 8/16/06

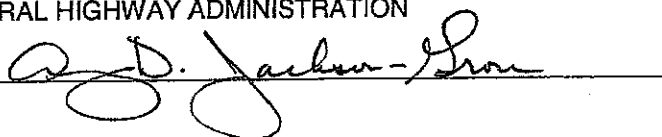
MEMORANDUM OF AGREEMENT

**Route 120 Bridge (BIN 1037350) over Metro-North
Hamlet of Chappaqua, Town of New Castle, Westchester County
NYSDOT PIN 8026.08
SHPO 05PR05945**

EXECUTION AND IMPLEMENTATION of this Memorandum of Agreement between the NYSDOT, the SHPO and the FHWA, in accordance with 36 CFR 800.6(c), and implementation of its terms provide evidence that the FHWA has taken into account the effect of this undertaking on historic properties and afforded the Advisory Council on Historic Preservation an opportunity to comment.

FEDERAL HIGHWAY ADMINISTRATION

By



Date 9/21/2006



New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

December 15, 2005

Sandra D. Jobson, RLA, AICP
Cultural Resource Coordinator
NYS Dept. of Transportation-Region 8
4 Burnett Boulevard
Poughkeepsie, NY 12603

DEC 22 2006
RECEIVED
REGION 8 DESIGN

Re: FHWA/DOT PIN 8026.08.101
BIN 1037350
Rt 120 Bridge over Metro
Chappaqua, Westchester County
05PR05945

Dear Ms. Jobson:

Thank you for requesting the comment of the State Historic Preservation Office (SHPO). We have had an opportunity to initiate the review of the project in accordance with Section 106 of the National Historic Preservation Act of 1966 and relevant implementing regulations.

Based upon our review of the submitted Finding Documentation, the SHPO concurs with the opinion that the replacement of the subject bridge will result in an **Adverse Effect** upon the property that has been determined to be eligible for inclusion in the National Register of Historic Places. Although the submitted report provides substantial information regarding the difficulty in adapting the existing bridge to the project requirements, we will need more information regarding the proposed replacement before we can help develop an agreement for the project.

Please forward additional project information once the material becomes available. If you have questions, please call me at your convenience. Ext. 3273.

Sincerely,

Kenneth Markunas
Historic Sites
Restoration Coordinator

Cc: Robert Arnold, FHWA
Daniel Hitt, Main DOT EAB

347 Madison Avenue
New York, NY 10017-3739
212 340-3000

Peter A. Cannito
President



Metro-North Railroad

September 1, 2000

Marion S. Sinek
Supervisor
Town of New Castle
200 South Greeley Avenue
Chappaqua, New York 10514

Re: Route 120 Bridge Over Metro-North Tracks in Chappaqua

Dear Supervisor Sinek:

Thank you for your letter of August 17, 2000 regarding the proposed reconstruction of the bridge carrying Route 120 over the Metro-North tracks and the Saw Mill River Parkway in Chappaqua.

There presently is no freight service operated over that portion of the Harlem Line passing through Chappaqua and we are not aware of any plans to establish freight service in the future. We would be satisfied with maintenance of the existing 19-foot 4-inch clearance above the top of rail at this location. While we cannot speak for the New York State Department of Transportation on this matter, it is reasonable to assume they would go along with the lower clearance in view of the physical difficulties with the roadway at this location and the fact that there is no freight service being operated through the area.

Sincerely yours,

Richard K. Bernard
Vice President and General Counsel
RKB:aa

cc: Genny Firnhaber
Howard Permut
George Walker
Walter Zullig, Jr.

Date	10/9/00	P. of	1
From	M. Sinek		
To	New Castle		
Phone #	238-7281		
Fax #	238-2354		
Post-It Fax Note	7671		
To	Chris Edwards		
Co. Dept.	DOT		
Phone #	431-5953		
Fax #	431-7934		

MTA Metro-North Railroad is an agency of the Metropolitan Transportation Authority, State of New York
E. Virgil Conway, Chairman

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
Wildlife Resources Center - New York Natural Heritage Program
700 Troy-Schenectady Road, Latham, New York 12110-2400
Phone: (518) 783-3932 FAX: (518) 783-3916



John P. Cahill
Commissioner

RECEIVED
AUG 10 2000
Clark Patterson Associates

August 8, 2000

Kevin Rooney
Clark Patterson Associates
186 North Water St
Rochester, NY 14604

Dear Mr. Rooney:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to the proposed Rte 120 Bridge Rehabilitation over the Metro North Railroad, BIN 1037350, site as indicated on the map you provided, located in the Town of New Castle, Westchester County.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not mean, however, that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site, but rather that our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals, and plants, significant natural communities, and other significant habitats. For information regarding regulated areas or permits that may be required under state law (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Betty Ketcham
Betty A. Ketcham, Information Services
NY Natural Heritage Program

Enc.

cc: Reg. 3, Wildlife Mgr.

FILE

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

TO: R.J. Rella, Traffic Engineering & Safety Group, Region 8

FROM: B. I. Mattice, Regional Bridge Design Engineer, Region 8 *AMC*SUBJECT: PIN 8026.08
ROUTE 120 OVER RAILROAD STREET & MNRR (BIN 1037350)
TOWN OF NEW CASTLE
WESTCHESTER COUNTY

DATE: March 30, 1999

We are preparing the EPP/DR for the subject bridge rehabilitation project and propose to use a design speed of 60 km/h (37.28 mph). A copy of the radar speed study performed on March 30, 1999 by Regional Bridge Design personnel is attached for your review.

Please advise us of your concurrence or disapproval as soon as possible.

If you have any questions, please phone Sandra Karge at 431-5935.

BIM:AOF:SDK
Attachment

REVISED SPEED DATA & ANALYSIS SHEET - FORM TE-27

DEPARTMENT OF TRANSPORTATION - TRAFFIC & SAFETY DIVISION

SPEED (M.P.H.)	CHECK #1 NO. VEH. % OVER	CHECK #2 NO. VEH. % OVER	CHECK #3 NO. VEH. % OVER	CHECK #4 NO. VEH. % OVER	ROAD:					
60 - over	0 0-0	0 0-0			Route 120 over Railroad St. & MNRR					
58-59	0 0-0	0 0-0			COUNTY:	Westchester				
56-57	0 0-0	0 0-0			TOWN:	New Castle				
54-55	0 0-0	0 0-0			COMMENTS:	Posted Speed Limit 30				
52-53	0 0-0	0 0-0			SPEED CHARACTERISTIC	CHECK #1	CHECK #2	CHECK #3	CHECK #4	
50-51	0 0-0	0 0-0			10-MILE PACE					
48-49	0 0-0	0 0-0			% IN PACE					
46-47	0 0-0	0 0-0			LEGAL LIMIT					
44-45	0 0-0	0 0-0			% OVER					
42-43	0 0-0	0 0-0			% OVER MPH					
40-41	0 0-0	0 0-0			% OVER MPH					
38-39	1 0-0	0 0-0			CHECK #1	DATE: 3/30/99				
36-37	3 2-1	0 0-0			TIME:	12:20 - 12:30 pm				
34-35	6 7-4	5 2-0			WEATHER:	Sunny				
32-33	11 15-1	13 11-5			LOCATION:	100m West of Bridge				
30-31	13 27-2	16 26-18			PAVEMENT:	Dry, Asphalt Concrete				
28-29	30 49-3	36 52-34			CHECK #2	DATE: 3/30/99				
26-27	13 70-6	16 78-70			TIME:	12:40 - 1:00 pm				
24-25	11 82-7	9 90-86			WEATHER:	Sunny				
22-23	8 92-8	2 96-95			LOCATION:	100m West of Bridge				
20-21	4 98-9	3 98-97			PAVEMENT	Dry, Asphalt Concrete				
SET SWITCH	CHECK #1	CHECK #2	CHECK #3	CHECK #4	DESCRIPTION	CHECK #3	DATE:			
000	0	0			RADAR ANGLE	TIME:				
100	100	100			TOTAL ENTRIES	WEATHER:				
200	28.8	29.0			AVE. DISTRIBUTION	LOCATION:				
300	28.9	29.1			50 TH PERCENTILE SPEED	PAVEMENT:				
400	33.1	32.5			85 TH PERCENTILE SPEED	CHECK #4	DATE:			
500	4.0	3.3			STANDARD DEVIATION	TIME:				
600	n/a	n/a			% OF VEHICLES	WEATHER:				
700	n/a	n/a			% VEHICLES IN SPEED	LOCATION:				
800	n/a	n/a			SAMPLE DISTRIBUTION	PAVEMENT:				
900	n/a	n/a			LOWEST SPEED	SPEED CHECK BY: S.Karge, W. Auyeung, C. Bowser				



MEMORANDUM
DEPARTMENT OF TRANSPORTATION

TO: B. I. Mattice, Regional Structures Group, Region 8
attn.: S. Karge

FROM: R. J. Rella, Traffic Engineering & Safety Group, Region 8 

SUBJECT: PIN 8026.08; Route 120 over Railroad Street and MNRR (BIN 1037350)
Westchester County

DATE: April 13, 1999

This is in response to your memorandum of March 30, 1999, regarding the design speed for the above referenced project.

We concur with your proposed design speed of 60 km/h (37 MPH±) for Route 120.

RJR

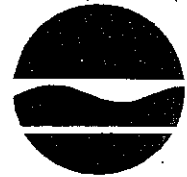
New York State Department of Environmental Conservation

Division of Fish, Wildlife & Marine Resources

New York Natural Heritage Program

625 Broadway, 5th floor, Albany, New York 12233-4757

Phone: (518) 402-8935 • FAX: (518) 402-8925



Denise M. Sheehan
Commissioner

October 23, 2006

RECEIVED

OCT 25 2006

CLARK PATTERSON ASSOCIATES

Kevin P Rooney
Clark Patterson Associates
186 North Water Street
Rochester, NY 14604

Dear Mr. Rooney:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to an Environmental Assessment for the proposed Road Reconstruction - Rte 120 from Hunts Place/Douglas to BIN 1037350, area as indicated on the map you provided, located in the Town of New Castle, Westchester County.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Jean Pietrusiak
Jean Pietrusiak, Information Services
New York Natural Heritage Program

Enc.

cc: Reg. 3, Wildlife Mgr.

OCT-04-2006 12:31

US FISH & WILDLIFE

P.01/01



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New York Field Office

3817 Luker Road

Cortland, NY 13045

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo>In Reply Refer to
Project Number:

70009

To: Kevin RooneyDate: 10-3-03Regarding: Reconstruction of NYS Route 120Town/County: Town of New Castle / Westchester

The U.S. Fish and Wildlife Service's New York Field Office (Service) has received your request for information regarding occurrences of Federally-listed threatened and endangered species within the vicinity of the above-referenced project/property. Due to increasing workload and reduction of staff, we are no longer able to reply to endangered species list requests in a timely manner. Our current average processing time for letters is approximately 3-4 months from the date of receipt. In an effort to streamline project reviews, we are shifting all species list requests to our website at <http://www.fws.gov/northeast/nyfo/es/section7.htm>. However, for the next few months, we would like to offer you the choice of either having the Service review your project and provide information regarding listed species presence in writing, or you may review the materials provided on our website to determine potential listed species presence. Step-by-step instructions are found on our website. Please check your preferred processing method below and return by FAX to the Service. If we receive no response within 30 days from the date of this FAX, we will assume that you will be conducting this review.

☒ I would like the Service to review the above-referenced project and provide a written response.

☐ I will conduct project screening using the Service's website.

As a reminder, Section 9 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) prohibits unauthorized taking of listed species and applies to Federal and non-Federal activities. Additionally, endangered species and their habitats are protected by Section 7(a)(2) of the ESA, which requires Federal agencies, in consultation with the Service, to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all Federal actions that may affect listed species.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. If you have any question or require further assistance regarding threatened or endangered species, please contact the Reviewing Biologist at (607) 753-9334. Please refer to the above document control number in any future correspondence.

Reviewing Biologist: Robyn A. Niver

RAN

PEDESTRIAN GENERATOR CHECKLIST

1.	Is there an existing or planned sidewalk, trail, or pedestrian crossing facility?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
2.	Are there bus stops, transit stations, or depots/terminals located in or within 800 m of the project area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
3.	Is there more than occasional pedestrian activity? Evidence of pedestrian activity may include a worn path.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
4.	Are there existing or approved plans for generators of pedestrian activity in or within 800 m of the project that promote or have the potential to promote pedestrian traffic in the project area, such as schools, parks, playgrounds, places of employment, places of worship, post offices, municipal buildings, restaurants, shopping centers or other commercial areas, or multiuse paths?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
5.	Are there existing or approved plans for seasonal generators of pedestrian activity in or within 800 m of the project that promote or have the potential to promote pedestrian traffic in the project area, such as ski resorts, state parks, camps, amusement parks?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
6.	Is the project located in a residential area within 800 m of existing or planned pedestrian generators such as those listed in #4?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
7.	From record plans, were pedestrian facilities removed during a previous highway reconstruction project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
8.	Did a study of secondary impacts indicate that the project promotes or is likely to promote commercial and/or residential development within the intended life cycle of the project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
9.	Does the community's comprehensive plan call for development of pedestrian facilities in the area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
10.	Based on the ability of students to walk and bicycle to school, would the project benefit from engineering measures under the Safe-Routes-To-School program? Eligible infrastructure-related improvements must be within a 3.2 km radius of the project.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Developer <u>Clark Patterson Associates</u>		Date: 10/25/2006

APPENDIX H
Non-Standard Feature Justification Tables
Alternative No. 3 – Bridge Replacement

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM '2.8)			
1. - Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius):	Horizontal Curve Radius		
Location:	STA. 0+780±		
Standard Value:	135 m	Design Speed:	60 km/h
Existing Value:	100 m	Safe Operating Speed:	53 km/h
Proposed Value:	100 m	Safe Operating Speed:	53 km/h
2. - Accident Analysis			
Current Accident Rate:	2.01 acc/MVKM		
Statewide Rate:	2.27 acc/MVKM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity:	There is no potential to increase the accident rate or severity of accidents if the existing curve radius remains.		
3. - Cost Estimates			
Cost to Fully Meet Standards:	\$2,500,000+		
Cost(s) For Incremental Improvements:	NA		
4. - Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):			
Improve superelevation of the curve and post warning signs and update striping in the intersection			
5. - Compatibility with Adjacent Segments & Future Plans:			
The curve radii does not adversely affect any adjacent roadway segments of future plans for this roadway.			
6. - Other Factors (e.g., Social, Economic & Environmental):			
There are no social, economic or environmental factors that would benefit from increasing the curve radii.			
7. - Proposed Treatment (i.e., Recommendation):			
It is proposed to retain the existing horizontal curve since it is considered an intersection curve and the speeds are typically slower through the intersection. This curve does not contribute to any accident pattern.			

NON-STANDARD FEATURE JUSTIFICATION (In accordance with HDM - 2.8)			
1. - Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius):	Horizontal Curve Radius		
Location:	STA. 0+925±		
Standard Value:	135 m	Design Speed:	60 km/h
Existing Value:	128 m	Safe Operating Speed:	57 km/h
Proposed Value:	132 m	Safe Operating Speed:	58 km/h
2. - Accident Analysis			
Current Accident Rate:	2.01 acc/MVKM		
Statewide Rate:	2.27 acc/MVKM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity:	There is no potential to increase the accident rate or severity of accidents if the existing curve radius remains.		
3. - Cost Estimates			
Cost to Fully Meet Standards:	\$3,000,000+		
Cost(s) For Incremental Improvements:	NA		
4. - Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):			
Improve superelevation of the curve (from 3.5% to 4.0%) and post warning signs.			
5. - Compatibility with Adjacent Segments & Future Plans:			
The curve radii do not adversely affect any adjacent roadway segments of future plans for this roadway.			
6. - Other Factors (e.g., Social, Economic & Environmental):			
There are no social, economic or environmental factors that would benefit from increasing the curve radii.			
7. - Proposed Treatment (i.e., Recommendation):			
It is proposed to retain the existing horizontal curve since the existing bridge over the Saw Mill River Parkway would need to be replaced to obtain the standard Horizontal Curve Radius. The existing curve does not contribute to any accident problems.			

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM '2.8)			
1. - Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius):	Horizontal Curve Radius		
Location:	STA. 1+088±		
Standard Value:	135 m	Design Speed:	60 km/h
Existing Value:	63 m	Safe Operating Speed:	45 km/h
Proposed Value:	63 m	Safe Operating Speed:	45 km/h
2. - Accident Analysis			
Current Accident Rate:	2.01 acc/MVKM		
Statewide Rate:	2.27 acc/MVKM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity:	There is no potential to increase the accident rate or severity of accidents if the existing curve radius remains.		
3. - Cost Estimates			
Cost to Fully Meet Standards:	\$2,000,000+		
Cost(s) For Incremental Improvements:	NA		
4. - Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):			
Improve the superelevation of the curve, improve pavement striping and post warning signs.			
5. - Compatibility with Adjacent Segments & Future Plans:			
The curve radii does not adversely affect any adjacent roadway segments of future plans for this roadway.			
6. - Other Factors (e.g., Social, Economic & Environmental):			
There are no social, economic or environmental factors that would benefit from increasing the curve radii.			
7. - Proposed Treatment (i.e., Recommendation):			
It is proposed to retain the existing horizontal curve since the existing curve mates into the "Y" intersection to the east of the project limits. The existing curve does not contribute to any accident problems.			

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM 2.8)			
1. Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius):	Stopping Sight Distance - Crest		
Location:	STA. 1+000±		
Standard Value:	85 m	Design Speed:	60 km/h
Existing Value:	54 m	Safe Operating Speed:	45 km/h
Proposed Value:	56 m	Safe Operating Speed:	46 km/h
2. Accident Analysis			
Current Accident Rate:	2.01 acc/MVKM		
Statewide Rate:	2.27 acc/MVKM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity:	There is no potential to increase the accident rate or severity of accidents if the existing crest vertical curve remains		
3. Cost Estimates			
Cost to Fully Meet Standards:	\$4,000,000+		
Cost(s) For Incremental Improvements:	NA		
4. Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):			
Post warning signs. The SSD for this curve is being incrementally improved.			
5. Compatibility with Adjacent Segments & Future Plans			
The crest curve does not adversely affect any adjacent roadway segments of future plans for this roadway.			
6. Other Factors (e.g., Social, Economic & Environmental)			
There are no social, economic or environmental factors that would benefit from increasing the curve length.			
7. Proposed Treatment (i.e., Recommendation)			
It is proposed to retain the existing vertical curve since the existing bridge over the Saw Mill River parkway and the under clearance of the bridge over MNRR would also be impacted to obtain the standard stopping sight distance. The existing vertical curve does not contribute to any accident problems.			

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM 2.8)			
1. Description of Non-Standard Feature			
Type of Feature (e.g. horizontal curve radius)	Stopping Sight Distance - Sag		
Location	STA. 0+855±		
Standard Value	85 m	Design Speed:	60 km/h
Existing Value	63 m	Safe Operating Speed:	50 km/h
Proposed Value	63 m	Safe Operating Speed:	50 km/h
2. Accident Analysis			
Current Accident Rate	2.01 acc/MVM		
Statewide Rate	2.27 acc/MVM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity	There is no potential to increase the accident rate or severity of accidents if the existing sag vertical curve remains.		
3. Cost Estimates			
Cost to Fully Meet Standards	\$350,000+		
Cost(s) For Incremental Improvements	NA		
4. Mitigation (e.g. increased superelevation and speed change lane length for a non-standard ramp radius)			
Improve superelevation of the horizontal curves (each side of the sag) and post intersection warning signs. The highway lighting will be maintained in the vicinity of the sag curve.			
5. Compatibility with Adjacent Segments & Future Plans			
The vertical curve does not adversely affect any adjacent roadway segments of future plans for this roadway.			
6. Other Factors (e.g. Social, Economic & Environmental)			
There are no social, economic or environmental factors that would benefit from increasing the curve radii.			
7. Proposed Treatment (i.e. Recommendation)			
It is proposed to retain the existing sag vertical curve since the existing bridge over the Saw Mill River Parkway would be impacted to obtain the standard stopping sight distance. The existing profile of the roadway would need to be raised in the sag which would impact the fill sections outside of the roadway and would likely require the acquisition of additional right-of-way. The existing curve does not contribute to any accident problems.			

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM - 2.8)			
1. - Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius):	Grade (Rolling)		
Location:	STA. 1+030± to 1+100±		
Standard Value:	8.0%	Design Speed:	60 km/h
Existing Value:	8.5%	Safe Operating Speed:	N/A
Proposed Value:	8.5%	Safe Operating Speed:	N/A
2. - Accident Analysis			
Current Accident Rate:	2.01 acc/MVKM		
Statewide Rate:	2.27 acc/MVKM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity:	There is no potential to increase the accident rate or severity of accidents if grade is remains non-standard.		
3. - Cost Estimates			
Cost to Fully Meet Standards:	\$1,600,000+		
Cost(s) For Incremental Improvements:	NA		
4. - Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):			
The length of horizontal curve will help reduce the non-standard feature.			
5. - Compatibility with Adjacent Segments & Future Plans:			
The grade of the roadway does not adversely affect any adjacent roadway segments of future plans for this roadway.			
6. - Other Factors (e.g., Social, Economic & Environmental):			
There are no social, economic or environmental factors that would benefit from reducing the proposed grade of this portion of Route 120. Businesses on South Greeley will be negatively impacted if the grade is flattened to the standard 8.0%			
7. - Proposed Treatment (i.e., Recommendation):			
It is proposed to retain the proposed grade since the under clearance of the bridge over the MNRR and the curb elevation (and business entrances) on South Greeley Avenue would be negatively impacted to obtain the standard roadway grade. The proposed grade will not contribute to any accident problems.			

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM '2.8)			
1 - Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius)	Vertical Clearance Over Metro North Railroad (MNRR)		
Location	STA. 0+990± to 1+000±		
Standard Value	6.71 m	Design Speed	60 km/h
Existing Value	6.02 m	Safe Operating Speed	N/A
Proposed Value	6.02 m	Safe Operating Speed	N/A
2 - Accident Analysis			
Current Accident Rate	N/A		
Statewide Rate	N/A		
Is the non-standard feature a contributing factor?	N/A		
Potential for Future Accidents and Accident Severity	N/A		
3 - Cost Estimates			
Cost to Fully Meet Standards	\$4,000,000+		
Cost(s) For Incremental Improvements	N/A		
4 - Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius)			
None			
5 - Compatibility with Adjacent Segments & Future Plans			
The vertical clearance does not adversely affect any adjacent rail segments of future plans for the railway.			
6 - Other Factors (e.g., Social, Economic & Environmental)			
There are no social, economic or environmental factors that would benefit from increasing the proposed vertical clearance over MNRR.			
7 - Proposed Treatment (i.e., Recommendation)			
It is proposed to retain the existing vertical clearance of 6.02 m. A letter from MNRR states that they would be satisfied maintaining the existing vertical clearance as there is currently no freight service on the lines and there are no plans to establish freight service in the future. See Appendix G.			

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM 2.8)			
1. - Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius):	Superelevation rate		
Location:	STA. 0+780±		
Standard Value:	4.0%	Design Speed:	60 km/h
Existing Value:	1.95%	Safe Operating Speed:	50 km/h
Proposed Value:	1.95%	Safe Operating Speed:	50 km/h
2. - Accident Analysis			
Current Accident Rate:	2.01 acc/MVKM		
Statewide Rate:	2.27 acc/MVKM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity:	There is no potential to increase the accident rate or severity of accidents if the existing curve radius remains.		
3. - Cost Estimates			
Cost to Fully Meet Standards:	\$2,500,000+		
Cost(s) For Incremental Improvements:	NA		
4. - Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):			
Improve superelevation of the curve incrementally (if possible) and provide improved friction with the new pavement surface.			
5. - Compatibility with Adjacent Segments & Future Plans:			
The superelevation does not adversely affect any adjacent roadway segments of future plans for this roadway.			
6. - Other Factors (e.g., Social, Economic & Environmental):			
There are no social, economic or environmental factors that would benefit from increasing the superelevation of the curve.			
7. - Proposed Treatment (i.e., Recommendation):			
It is proposed to retain the superelevation of the curve since it is considered an intersection curve and the speeds are typically slower through the intersection. This curve does not contribute to any accident pattern.			

NON-STANDARD FEATURE JUSTIFICATION (in accordance with HDM 2.8)			
1. - Description of Non-Standard Feature			
Type of Feature (e.g., horizontal curve radius):	Superelevation rate		
Location:	STA. 1+088±		
Standard Value:	4.0%	Design Speed:	60 km/h
Existing Value:	0.05%	Safe Operating Speed:	45 km/h
Proposed Value:	1.0%	Safe Operating Speed:	45 km/h
2. - Accident Analysis			
Current Accident Rate:	2.01 acc/MVKM		
Statewide Rate:	2.27 acc/MVKM		
Is the non-standard feature a contributing factor?	No		
Potential for Future Accidents and Accident Severity:	There is no potential to increase the accident rate or severity of accidents if the existing curve radius remains.		
3. - Cost Estimates			
Cost to Fully Meet Standards:	\$2,000,000+		
Cost(s) For Incremental Improvements:	NA		
4. - Mitigation (e.g., increased superelevation and speed change lane length for a non-standard ramp radius):			
	Improve the superelevation of the curve incrementally and provide improved friction with the new pavement surface.		
5. - Compatibility with Adjacent Segments & Future Plans:			
	The superelevation does not adversely affect any adjacent roadway segments of future plans for this roadway.		
6. - Other Factors (e.g., Social, Economic & Environmental):			
	There are no social, economic or environmental factors that would benefit from increasing the superelevation of the curve.		
7. - Proposed Treatment (i.e., Recommendation):			
	It is proposed to retain the superelevation of the curve since the existing curve mates into the "Y" intersection to the east of the project limits and must allow traffic to travel both ways (north and south) when traveling eastbound over the bridge. The existing curve does not contribute to any accident problems.		

APPENDIX I
Proposed ROW Impacts

PIN 8026.08.121

**RECONSTRUCTION OF ROUTE 120 FROM HUNTS LANE TO BIN 1037350
HAMLET OF CHAPPAQUA, TOWN OF NEW CASTLE
WESTCHESTER COUNTY**

PROPOSED ROW IMPACTS

The following list of properties will be impacted during construction:

<u>Reputed Owner</u>	<u>Liber</u>	<u>Page</u>	<u>Tax Map No.</u>	<u>Type of Take</u>	<u>Approx. Area</u>
Town of New Castle	4723	315	100.11-2-19	P.E.	484 SM
	3027	44		T.E.	1372 SM
Town of New Castle	3157	366	100.11-2-18	T.E.	1145 SM
	3043	188			
	3002	62			
Conrail	124	40	92.20-1-1.1	P.E.	947 SM
Town of New Castle	---	---	100.11-1-4	P.E.	215 SM
				T.E.	115 SM
Preferred Development Group, LTD.	45062	784	100.11-1-5	T.E.	647 SM
The Chappaqua Arcade, LLC	40285	551	100.11-2-17	T.E.	1202 SM
Town of New Castle	2897	285	100.11-2-21	T.E.	2238 SM
	1592	72	100.11-2-22		
Town of New Castle	6245	258	100.11-1	T.E.	64 SM